

Course Descriptions & Prerequisites

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Course Numbering

To simplify the task of maintaining accurate and complete academic records for all students at the College, an alpha-numeric code is used to identify all courses. In this code, the alpha digits indicate the subject area (see Subject Area listings). For example, World Regional Geography carries the course number GEOG-1010. The letters GEOG refer to the subject area, Geography. The number 1010 has been assigned to a specific course, World Regional Geography, within that subject area.

Subject areas are listed in alphabetical order by subject title, not by the course Code (see page X-3). Courses are listed in numerical order within each subject area. The semester course numbering system defines the type of course it is. Courses numbered xxx-09xx generally are designed to provide students with basic skills necessary for freshman studies. ENG-0980, for example, is Language Fundamentals I. Courses that begin with the number "1xxx" normally represent freshman-level courses. Courses that begin with the number "2xxx" are usually sophomore-level courses.

Modular courses may be offered in some subject areas. A modular course is a component of an approved semester course and is identified with a final letter of A, B, C, D or E. The course content of a modular course must be contained in the original course.

A special topics course permits the teaching of a variety of topics not currently contained in its subject area. An "18xx" numbered course indicates a freshmen-level special topics course; a "28xx" is assigned to a sophomore-level course (see pages X-5 and X-6 for course descriptions of special topics courses in the catalog). Pages X-6 and X-7 provide course descriptions of Independent Study/Research courses. Cooperative Education course and Honors course descriptions are on page X-7. Courses on pages X-5 through X-7 carry a common course description, and therefore the specific course number(s) will refer the student to these front pages to obtain the course description.

Course numbers do not indicate whether or not a course will be accepted for transfer to other institutions. Students are advised to consult with their counselors regarding transfer of courses and credits to other institutions.

Credit Hours

The number of semester credits for each course described in the Catalog is indicated after the course title. For example, three credits are indicated as 03 Semester Credits. The number of credits for a course does not necessarily equal the number of hours that the course meets in one week.

Prerequisites

Prerequisites, if any, are listed at the end of each course description. Prerequisites are established by each department, for each course in that department, to ensure that the student has an adequate and sufficient background to enroll in the course and achieve success. It is the student's responsibility to ensure that he or she has met the prerequisites for any course in which he or she enrolls. PREREQUISITES WILL BE CHECKED BY THE COMPUTER AT THE TIME OF REGISTRATION. If the student is unsure that the prerequisite has been met, he or she should consult with the department PRIOR to registering for that course.

Schedule of Classes

Courses described in this Catalog are those approved by the Cuyahoga Community College Board of Trustees at the time of publication. Inclusion of a course description does not obligate the College to offer the course in any given semester or academic year. A Credit Schedule of classes is published each semester prior to the registration period. The schedule of classes contains a list of classes to be offered and general registration information. Courses approved by the Board of Trustees after the publication of this Catalog are reflected in the Credit Schedule of classes.

How to Read Course Descriptions

How to Read the Course Descriptions			
	Course Number		
Subject Area Code	SPAN-1020 Beginning Spanish II		Course Title
Credit Hours	04 Semester Credits		Course Description
	Development of proficiency in speaking, understanding, reading, and writing in Spanish. Emphasis on strengthening conversational skills through discussions of selected readings, cultural topics and more conversational opportunities.		
Prerequisites	Lecture 03 hours. Laboratory 02 hours. Prerequisite(s): SPAN-1010 Beginning Spanish I, or one year of high school Spanish, or departmental approval.		Number of Hours the Course meets per Week

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Subject Areas

<u>Subject Areas</u>	<u>Subject Code</u>		
Accounting	ACCT	Information Technology	IT
American Sign Language	ASL	Information Applications Specialist	ITAP
Anthropology	ANTH	Mainframe Programming	ITMF
Applied Industrial Technology		Microcomputer Specialist	ITMP
Bricklaying	ATBL	Networking Software	ITNT
Carpentry	ATCT	Web Page Development and Maintenance	ITWM
Cement Masonry	ATCM	Interior Design	INTD
Drywall Finishing	ATDW	Italian	ITAL
Electrical Construction	ATEL	Japanese	JAPN
Floorlaying	ATFL	Journalism and Mass Communications	JMC
Glazing	ATGL	Latin	LAT
Manufacturing Technology	ATMT	Law Enforcement	LAWE
Operating Engineers	ATOE	Manufacturing/Industrial Technology	MIT
Painting	ATPT	Marketing	MARK
Architectural and Construction	ARCH	Masotherapy	MT
Engineering Technology		Mathematics	MATH
Art	ART	Mechanical Engineering Technology	MET
Automotive Technology	AUTO	Medical Assisting	MA
Biology	BIO	Medical Laboratory Technology	MLT
Business Administration	BADM	Music	MUS
Chemistry	CHEM	Nursing	NURS
Chinese	CHIN	Occupational Therapy Assistant Technology	OTAT
Commercial Art and Design	CART	Optical Technology	OPT
Court and Conference Reporting	C&CR	Paralegal Studies	PL
Dance	DANC	Pharmacy Technology	PHM
Deaf Interpretive Services	ITP	Philosophy	PHIL
Dental Assisting	DAST	Physical Education	PE
Dental Hygiene	DENT	Physical Science	PSCI
Diagnostic Medical Sonography	DMS	Physical Therapist Assisting Technology	PTAT
Dietetic Technology	DIET	Physician Assistant	PA
Early Childhood Education	ECED	Physics	PHYS
Earth Science	ESCI	Plant Science and Landscape Technology	PST
Economics	ECON	Political Science	POL
Education	EDUC	Practical Nursing	PNUR
Electrical/Electronic Engineering Tech.	EET	Psychology	PSY
Emergency Medical Technology	EMT	Radiography	RADT
English	ENG	Real Estate	REAL
English as a Second Language	ESL	Recording Arts and Technology	RAT
Environmental, Health & Safety Tech.	EHST	Religious Studies	REL
Financial Management	FIN	Respiratory Care	RESP
Fire Technology	FIRE	Russian	RUSS
French	FREN	Social Science	SSCI
General Studies	GEN	Sociology	SOC
Geography	GEOG	Spanish	SPAN
German	GER	Speech Communication	SPCH
Graphic Communications and Photography	GCMT	Surgical Physician Assistant	SPA
Health	HLTH	Surgical Technology	SURT
Health Information Management	HIM	Theatre Arts	THEA
Health Technologies	HTEC	Urban Studies	UST
History	HIST	Veterinary Technology	VT
Hospitality Management	HOSP	Women's Studies	WST
Human Services	HS		
Humanities	HUM		

Semester Course Numbering

Description

Developmental Courses	0800 to 0990	
	<u>Freshman-Level No.</u>	<u>Sophomore-Level No.</u>
Introductory/Non-Majors / Basic Courses	1000 to 1290	2000 to 2290
Majors /Technical Courses	1300 to 1740	2300 to 2740
Honors Courses	1750 to 1790	2750 to 2790
Special Topics Courses (Lecture)	1800	2800
Special Topics Courses (2 hour Lab)	181S	281S
Special Topics Courses (3 hour Lab)	181T	281T
Special Topics Practicum	181P	281P
Independent Study/Research Courses	1820	2820
Independent Study/Research Courses (2 hour Lab)	182S	282S
Independent Study/Research Courses (3 hour Lab)	182T	282T
Cooperative Education Courses	—	2830
Internship Courses	1840	2840
Practicum	1850 to 1870	2850 to 2870
Clinicals (Nursing and Practical Nursing only)	1880 to 1900	2880 to 2900
Directed Practice	1910 to 1930 (Radiography uses additional course numbers)	2910 to 2930
Field Experience	1940 to 1960	2940 to 2960
Seminar	1970 to 1980	2970 to 2980
Capstone Course	—	2990

Note: Modular courses are identified by use of the letters "A through E" instead of fourth digit such as "0".
 Some laboratory courses are identified by the letter "L" instead of fourth digit such as "0".
 Special Topics and Independent Study/Research labs are identified by letters "S" and "T" instead of the fourth digit "0".
 Special Topics practicum lab is identified by the letter "P" instead of the fourth digit "0".
 Honors courses that may replace a current course use the letter "H" in the fourth position (such as ENG-101H for ENG-1010).

Special Topics

The College offers a variety of courses in a number of disciplines which carry a common description. The course descriptions and the disciplines offering these specialized courses are listed below. Students should see the current Credit Schedule of classes for specific semester offerings.

SPECIAL TOPICS

xxxx-1800 Special Topics in xxxx

1-3 Semester Credits

Study of selected topics or current issues in xxxx. Provides student an opportunity to explore various topics in greater detail (see Credit Schedule of classes for current offerings). Repeatable for different topics. No more than six credits of special topics may be applied toward elective and/or program graduation degree requirements.

Lecture 1-3 hours Laboratory 00 hours

Prerequisite(s): Faculty counterparts determine appropriate prerequisite/corequisite for each topic.

See current Credit Schedule for semester offerings.

xxxx-181S Special Laboratory Topics in xxxx

1-3 Semester Credits

Specialized two-hour lab per credit focusing on selected topics or current issues in xxxx (see Credit Schedule of classes for current offerings). Repeatable for different topics. No more than six credits of special topics courses may be applied toward elective and/or program graduation degree requirements.

Lecture 00 hours Laboratory 2-6 hours

Prerequisite(s): Faculty counterparts determine appropriate prerequisite/corequisite for each topic.

See current Credit Schedule for semester offerings.

xxxx-181T Special Laboratory Topics in xxxx

1-3 Semester Credits

Specialized three-hour lab per credit focusing on selected topics or current issues in xxxx (see Credit Schedule of classes for current offerings). Repeatable for different topics. No more than six credits of special topics courses may be applied toward elective and/or program graduation degree requirements.

Lecture 00 hours Laboratory 3-9 hours

Prerequisite(s): Faculty counterparts determine appropriate prerequisite/corequisite for each topic.

See current Credit Schedule for semester offerings.

xxxx-2800 Special Advanced Topics in xxxx

1-3 Semester Credits

Study of selected advanced topics or current issues in xxxx. Provides student an opportunity to explore various topics in greater detail (see Credit Schedule of classes for current offerings). Repeatable for different topics. No more than six credits of special topics courses may be applied toward elective and/or program graduation degree requirements.

Lecture 1-3 hours Laboratory 00 hours

Prerequisite(s): Faculty counterparts determine appropriate prerequisite/corequisite for each topic.

See current Credit Schedule for semester offerings.

xxxx-281S Special Advanced Laboratory Topics in xxxx

1-3 Semester Credits

Specialized two-hour lab per credit focusing on advanced topics or current issues in xxxx (see Credit Schedule of classes for current offerings). Repeatable for different topics. No more than six credits of special topics courses may be applied toward elective and/or program graduation degree requirements.

Lecture 00 hours Laboratory 2-6 hours

Prerequisite(s): Faculty counterparts determine appropriate prerequisite/corequisite for each topic.

See current Credit Schedule for semester offerings.

xxxx-281T Special Advanced Laboratory Topics in xxxx

1-3 Semester Credits

Specialized three-hour lab per credit focusing on advanced topics or current issues in xxxx (see Credit Schedule of classes for current offerings). Repeatable for different topics. No more than six credits of special topics courses may be applied toward elective and/or program graduation degree requirements.

Lecture 00 hours Laboratory 3-9 hours

Prerequisite(s): Faculty counterparts determine appropriate prerequisite/corequisite for each topic.

See current Credit Schedule for semester offerings.

Independent Study/Research

xxxx-1820 Independent Study/Research in xxxx

1-3 Semester Credits

Directed individual study. Study/research title and specific content arranged between instructor and student. May be repeated for a maximum of six credits of different topics.

Lecture 01-03 hours Laboratory 00 hours

Prerequisite(s): Eligibility for ENG-1010 College Composition I, and departmental approval and instructor approval.

See current Credit Schedule for semester offerings.

xxxx-182S Independent Laboratory Study/Research in xxxx

1-3 Semester Credits

Independent two-hour lab per credit. Directed individual study. Study/research title and specific content arranged between instructor and student. May be repeated for a maximum of six credits of different topics.

Lecture 00 hours Laboratory 2-6 hours

Prerequisite(s): Eligibility for ENG-1010 College Composition I, and departmental approval and instructor approval.

Available in some disciplines (see current Credit Schedule for semester offerings).

xxxx-182T Independent Laboratory Study/Research in xxxx

1-3 Semester Credits

Independent three-hour lab per credit. Directed individual study. Study/research title and specific content arranged between instructor and student. May be repeated for a maximum of six credits of different topics.

Lecture 00 hours Laboratory 3-9 hours

Prerequisite(s): Eligibility for ENG-1010 College Composition I, and departmental approval and instructor approval.

Available in some disciplines (see current Credit Schedule for semester offerings).

xxxx-2820 Independent Advanced Study/Research in xxxx

1-3 Semester Credits

Directed individual advanced study. Study/research title and specific content arranged between instructor and student. May be repeated for a maximum of six credits of different topics.

Lecture 01-03 hours Laboratory 00 hours

Prerequisite(s): Eligibility for ENG-1010 College Composition I, and departmental approval and instructor approval.

See current Credit Schedule for semester offerings.

xxxx-282S Independent Advanced Laboratory Study/Research in xxxx

1-3 Semester Credits

Independent two-hour lab per credit. Directed individual advanced study. Study/research title and specific content arranged between instructor and student. May be repeated for a maximum of six credits of different topics.

Lecture 00 hours Laboratory 2-6 hours

Prerequisite(s): Eligible for ENG-1010 College Composition I, and departmental approval and instructor approval.

Available in some disciplines (see current Credit Schedule for semester offerings).

xxxx-282T Independent Advanced Laboratory Study/Research in xxxx

1-3 Semester Credits

Independent three-hour lab per credit. Directed individual advanced study. Study/research title and specific content arranged between instructor and student. May be repeated for a maximum of six credits of different topics.

Lecture 00 hours Laboratory 3-9 hours

Prerequisite(s): Eligible for ENG-1010 College Composition I, and departmental approval and instructor approval.

Available in some disciplines (see current Credit Schedule for semester offerings).

Cooperative Education

×××-2830 Cooperative Field Experience

1-3 Semester Credits

Open to students eligible for the Cooperative Education Program. Employment in an approved training facility under College supervision. Requirement for one credit is 180 hours of approved work. Students may earn up to three credits in one semester. May be repeated for an accrued maximum of nine credits.

Lecture 00 hours Laboratory 00 hours

Other Required Hours: 180 clock hours of approved work per credit hour

Prerequisite(s): See campus COOP Advisor for the Cooperative Education Program application.

Available in some disciplines (see current Credit Schedule of classes for semester offerings).

Honors Courses

Honors courses at Cuyahoga Community College are based upon a commitment to college, a commitment to scholarship, and a commitment to community. Interested students of high academic potential who wish to join specially selected faculty in a partnership dedicated to learning and personal growth should consider taking Honors courses. Students enrolled in Honors courses can expect university parallel curriculum, strong faculty mentoring relationships, contractual-independent learning opportunities, extra-curricular programs sponsored by Phi Theta Kappa, the international Honor Society, and opportunities to seek scholarship rewards based on academic achievement. Honors courses normally end with an "H" in the fourth position of the course number. Consult the current Credit Schedule for course offering information in detail.

Honors courses are open to both new and current students. For information about admission to Honors courses, contact the Counseling Department or the Campus Honors Coordinator. Honors students will have the opportunity to apply for admission to Phi Theta Kappa. Cuyahoga Community College maintains membership in the National Collegiate Honors Council.

Equivalent Courses

The equivalency chart below lists semester courses that have been officially deleted and therefore are unavailable to students. Each deleted course is paired with a course replacement. The course replacement is identical in content, and has been renumbered to meet new degree requirements, or is very similar in content and instructional function and has been declared equivalent by content experts in the specific discipline. These course equivalents will be used consistently college-wide.

This list will be expanded to include other deleted courses that have been examined and determined to meet this criteria. Each campus Counseling Office will have this updated list as it is revised. The concept of repeated courses, point of graduation and point of course completion are important elements of equivalent courses. These elements are explained below.

Repeated Course: if identified as equivalent, renumbered course may be treated as repeats.

The Equivalent Course list identifies a new course as equivalent to a prior course no longer offered. These new courses carry a different course number and may also carry a different subject code. These identified equivalent renumbered courses will be treated as repeats under the College’s repeated course rules, i.e., credit is earned for only one completion and the lower of the two grades is not computed into the student’s grade point average.

Point of Graduation: if course is a 2000-level course at the time the student graduates, the semester credits may apply to the 2000-level degree requirement.

Semester courses may be renumbered from a 1000-level course number to a 2000-level course number. The new degree requirements for the Associate of Arts, Associate of Science, Associate of Applied Business and Associate of Applied Science, effective Fall 2001, require 20 semester credits at the 2000-level. Students who took a 1000-level course that has since been renumbered to a 2000-level course may use that 2000-level course to meet the 2000-level requirement.

Point of Course Completion: if a course was taken when it carried a 2000-level course number, the semester credits may be applied to the 2000-level degree requirement.

Semester courses may be renumbered from a 2000-level course number to a 1000-level course number. The student may apply the semester credits of the 1000-level course to the 20 semester credits at the 2000-level requirement if the course carried a 2000-level course number at the time the student took the course.

Equivalent Course Tables can be seen below.

- BIO-1430 to CS-1400
- CS-1410 to OADM-2300
- OADM-2310 to THEA-1220

Equivalent Courses (BIO-1430 to CS-1400)

DELETED COURSE		CR.	EQUIVALENT COURSE		CR.
BIO-1430	Anatomy and Physiology I	4	BIO-2330	Anatomy and Physiology I	4
BIO-1440	Anatomy and Physiology II	4	BIO-2340	Anatomy and Physiology II	4
CART-1320	Page Layout and Design	2	CART-2300	Page Layout and Design	2
CS-1020	Introduction to Computers	3	IT-1010 AND IT-1020	Introduction to Microcomputer ApplicationsAND Information Technology Concepts	3
CS-1030	Introduction to Internet	2	IT-1030	Internet Fundamentals	2
CS-1310	Internal Computer Functions	2	ITMF-1310	Internal Computer Functions	2
CS-1320	Microcomputer Operating Systems	3	IT-1040	Microcomputer Operating Systems	3
CS-1350	Programming Logic	3	IT-1050	Programming Logic	3
CS-1400	Spreadsheet Use and Design	3	ITAP-1250	Electronic Spreadsheet Use and Design	3

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Equivalent Courses (CS-1410 to OADM-2300)

DELETED COURSE		CR.	EQUIVALENT COURSE		CR.
CS-1410	Database Use and Design	3	IT-2300	Database Use and Design	3
CS-1501	Application Program Development I: COBOL	5	ITMF-1500	Application Program Development I: COBOL	5
CS-2400	Network Fundamentals	3	ITNT-2300	Network Fundamentals	3
CS-2500	Microcomputer Project	3	ITMP-2990	Microcomputer Project	3
CS-2530	Application Program Development II: COBOL, CICS	5	ITMF-2530	Application Program Development II: COBOL, CICS	5
CS-2550	Application Program Development III: COBOL, CICS, SQL	5	ITMF-2550	Application Program Development III: COBOL, CICS, SQL	5
CS-2610	Assembly Programming Language	4	ITMF-2610	Assembly Language Programming	4
CS-2620	Visual Basic Programming	4	ITMP-2620	Visual Basic Programming	4
CS-2630	Advanced Visual Basic Programming	4	ITMP-2630	Advanced Visual Basic Programming	4
CS-2670	C/C++ Programming Language	4	ITMP-2670	C/C++ Programming Language	4
CS-2700	Systems Analysis and Design	3	IT-2700	Systems Analysis and Design	3
ECED-1700	Including Children with Special Needs	3	ECED-2700	Including Children with Special Needs	3
ECON-1610	Principles of Macroeconomics	3	ECON-2610	Principles of Macroeconomics	4
ECON-1620	Principles of Microeconomics	3	ECON-2620	Principles of Microeconomics	4
HOSP-1700	Hospitality Purchasing	2	HOSP-2700	Hospitality Purchasing	2
JMC-2210	Introduction To Radio and Television	3	JMC-1210	Introduction To Radio and Television	3
MA-1030	Medical Terminology II	2	MA-2010	Medical Terminology II	2
MA-1410	Advanced Clinical Medical Assisting	3	MA-2410	Advanced Clinical Medical Assisting	3
MA-1520	Medical Billing and Coding	3	MA-2520	Medical Billing	3
MATH-1140	Applied Algebra	2	MATH-1141	Applied Algebra and Mathematical Reasoning (equivalent through Summer 2004)	3
MIT-1550	Industrial Drawing Essentials		MIT-2030	Industrial Drawing Essentials	3
MIT-1700	CAD/CAM I	3	MIT-2000	CAD/CAM I	3
MIT-1950	Industrial CAD I	3	MIT-2040	Industrial CAD I	3
OADM-1000	Business Language Skills	2	BADM-1000	Business Language Skills	2
OADM-1010	Keyboarding	2	IT-1000	Keyboarding	2
OADM-1020	Microcomputer Applications	3	IT-1010	Introduction to Microcomputer Applications	3
OADM-1030	Speed Building	2	ITAP-1220	Speed Building	2
OADM-1040	Basic Filing with Microcomputer Applications	3	ITAP-1240	Basic Filing with Microcomputer Applications	3
OADM-1050	Electronic Spreadsheet Applications	3	ITAP-1250	Electronic Spreadsheet Use and Design	3
OADM-1060	Introduction to Windows	2	IT-1060	Introduction to Windows	2
OADM-1300	Beginning Shorthand	3	NONE		
OADM-1310	Basic Business Formatting	3	ITAP-1230	Basic Business Formatting	3
OADM-1320	Intermediate Shorthand	3	NONE		
OADM-2010	Business Communications	3	BADM-2010	Business Communications	3
OADM-2300	Word Processing	3	ITAP-1200	Word Processing I	3

Equivalent Courses (OADM-2310 to THEA-1220)

<u>DELETED COURSE</u>		<u>CR.</u>	<u>EQUIVALENT COURSE</u>		<u>CR.</u>
OADM-2310	Desktop Publishing	3	ITAP-2270	Desktop Publishing	3
OADM-2320	Machine Transcription	3	NONE		
OADM-2990	Office Procedures and Practices	3	BADM-2990	Office Procedures and Practices	3
PL-1420	Probate Law	3	PL-2420	Probate Law	3
THEA-1210	Development of Theatre & Drama I	3	THEA-2210	History of Theatre & Drama I	3
THEA-1220	Development of Theatre & Drama II	3	THEA-2220	History of Theatre & Drama II	3

Cross-listed Courses

Cross-listed courses are identical courses offered in two or more subject areas. They may differ only in subject area code and course number. Credit may only be earned once for cross-listed courses. Listed below are four cross-listed courses that follow identical course outlines.

Current Course		Equivalent Course	Semester Credits
BIO-1300	Horticultural Botany	Cross-listed as PST-1300	3
PST-1300	Horticultural Botany	Cross-listed as BIO-1300	3
CART-1020	Macintosh Basics	Cross-listed as GCMT-1020	1
GCMT-1020	Macintosh Basics	Cross-listed as CART-1020	1

Course Descriptions

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Accounting - ACCT

ACCT-1010 Quantitative Applications for Accounting and Business

03 Semester Credits

Application of applied quantitative procedures to typical accounting, financial, and business situations. Topics include application of percents in business; simple and compound simple and compound interest; financing, property and sales taxes; applied statistics; present and future values; and other accounting/business topics. Use of financial calculator in problem-solving.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

ACCT-1020 Applied Accounting

03 Semester Credits

Fundamentals of accounting procedures as used in a double-entry bookkeeping system. Emphasis on application of techniques and procedures to record financial information in an accounting system and to generate financial statements. Introduction to use of commercial general ledger software in recording business transactions.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

ACCT-1030 Payroll

03 Semester Credits

Detailed study of payroll, record-keeping regulations, reporting requirements, accounting procedures and federal labor laws. Covers computations of gross wages, salaries, mandatory deductions of federal, state and local taxes, and optional deductions. Covers employer's related taxes and preparation of various payroll tax forms.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ACCT-1310 Financial Accounting, or departmental approval: equivalent coursework or experience.

ACCT-1040 Individual Taxation

03 Semester Credits

Individual income taxes with concentration at federal level. History, assumptions and objectives of federal income tax law. Determination of filing status, exemptions, inclusions, exclusions, adjustments, deductions, credits, tax liability and reporting requirements. Completion of tax returns, tax planning and introduction to federal tax research.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

ACCT-1310 Financial Accounting

04 Semester Credits

Introduction to methodology and logic of accounting procedures, principles, and standards followed in development of information presented in financial statements of business organizations. Emphasizes measuring, describing, interpreting, and analyzing business economic activities.

Lecture 04 hours. Laboratory 00 hours. Prerequisite(s): None.

ACCT-1320 Accounting with Computer Applications

04 Semester Credits

Capstone course in Accounting. Microcomputer skills as used in accounting and business. Reinforcement of financial accounting concepts and procedures through use of personal computers and popular commercial software. Emphasis on using spreadsheet and/or other appropriate software for report preparation and solution of typical accounting/business-related problems. Selection of appropriate software tool, report layout and design, and documentation.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): ACCT-1020 Applied Accounting, or ACCT-1310 Financial Accounting; and IT-1010 Introduction to Microcomputer Applications; or departmental approval: equivalent coursework or skills.

ACCT-1340 Managerial Accounting

04 Semester Credits

Introduces management emphasis to accounting information. Used by managers to plan operations, control activities, and make sound business decisions. Emphasizes cost accounting systems and cost behaviors; responsibility accounting; identification of financial information relevant to management; and critical thinking and decision making.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): ACCT-1310 Financial Accounting.

ACCT-1800 Special Topics in Accounting

1-3 Semester Credits.

ACCT-181S Special Laboratory Topics in Accounting

1-3 Semester Credits

Specialized two-hour lab per credit. See pageX-5 for course description.

ACCT-181T Special Laboratory Topics in Accounting

1-3 Semester Credits

Specialized three-hour lab per credit. See pageX-5 for course description.

ACCT-1820 Independent Study/Research in Accounting

1-3 Semester Credits.

ACCT-2040 Business Taxation

03 Semester Credits

Introduction to business taxes. Concentration on corporate federal income taxes. Preparation of various tax forms including 1120 and 1120S and related schedules. Includes sales and use tax, personal property taxes, franchise taxes, and other taxes related to business

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ACCT-1310 Financial Accounting, or departmental approval: equivalent coursework or experience.

ACCT-2310 Intermediate Accounting I

04 Semester Credits

Continuation of Financial Accounting. In-depth study of accounting process and accounting records; nature and content of accounting statements: balance sheet, income statement, statement of retained earnings and statement of cash flows; analysis of working capital; and time value of money. Emphasis on special problems of asset valuation and income determination in areas of cash and receivables; trading and available-for-sale securities; inventory; property, plant and equipment, and intangible assets.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): ACCT-1310 Financial Accounting, or departmental approval: equivalent coursework or experience.

ACCT-2320 Intermediate Accounting II

04 Semester Credits

Continuation of Intermediate Accounting I. Emphasis on analysis, methods of valuation and statement presentation of current and long-term liabilities, including leases and pensions; corporate equity in both simple and complex capital structures, including earnings per share computations; income tax accounting; error correction and financial statement analysis.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): ACCT-2310 Intermediate Accounting I.

ACCT-2340 Cost Accounting

04 Semester Credits

Theory and practice of cost accounting as applied to management of manufacturing businesses. Accounting for materials, labor, and overhead under process cost and job order cost systems. Study of budgeting process and standard cost procedures. Accounting for by-products and joint products. Use of gross profit analysis, contribution margin, break-even point, differential cost analysis, and other analytical tools by management in decision-making activities.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): ACCT-1340 Managerial Accounting, or departmental approval: equivalent coursework or experience.

ACCT-2500 Governmental/Non-Profit Accounting

04 Semester Credits

Accounting principles, standards and procedures for government entities and non-profit service entities, including school systems, colleges and universities, hospitals, charitable and religious organizations, and fraternal organizations. Application of current FASB and GASB standards. Modular courses ACCT-250A and ACCT-250B together will also meet degree requirements.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): ACCT-1020 Applied Accounting, or ACCT-1310 Financial Accounting, or departmental approval: equivalent coursework or experience.

ACCT-250A Government Accounting

02 Semester Credits

Accounting principles, standards, and procedures for government entities. Emphasis on funds concept, financial reporting, and Government Accounting Standards Board (GASB) pronouncements.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ACCT-1020 Applied Accounting, or ACCT-1310 Financial Accounting, or departmental approval: equivalent coursework or experience.

ACCT-250B Non-Profit Accounting

02 Semester Credits

Accounting principles, standards, and procedures for non-profit service entities. Emphasis on school systems, colleges and universities, hospitals, charitable, religious, and fraternal organizations. Application of current FASB and GASB standards.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ACCT-1020 Applied Accounting, or ACCT-1310 Financial Accounting, or departmental approval: equivalent coursework or experience.

ACCT-2800 Special Advanced Topics in Accounting

1-3 Semester Credits. See pageX-5 for course description.

ACCT-281S Special Advanced Laboratory Topics in Accounting

1-3 Semester Credits

Specialized two-hour lab per credit. See pageX-5 for course description.

ACCT-281T Special Advanced Laboratory Topics in Accounting

1-3 Semester Credits

Specialized three-hour lab for credit. See page X-6 for course description.

ACCT-2820 Independent Advanced Study/Research in Accounting

1-3 Semester Credits. See page X-6 for course description.

ACCT-2830 Cooperative Field Experience

1-3 Semester Credits. See pageX-7 for course description.

American Sign Language - ASL

ASL-1000 Fingerspelling

01 Semester Credit

Mastery of manual alphabet in conversational settings emphasizing accuracy, clarity, speed, and rhythm in the application of comprehension and production skills.

Lecture 01 hour. Laboratory 00 hours. Prerequisite(s): None.

ASL-1010 Beginning American Sign Language I

04 Semester Credits

Introduction to American Sign Language (ASL) emphasizing basic survival skills, focusing on principles of ASL grammar, body language, and facial expressions. Practice in expressive and receptive skills.

Lecture 03 hours. Laboratory 02 hours. Prerequisite(s): None.

ASL-1020 Beginning American Sign Language II

04 Semester Credits

Focuses on continual skills/signs in order to communicate effectively in ASL. Practice in expressive and receptive skills daily in paragraph form. Introduction to conversational skills.

Lecture 03 hours. Laboratory 02 hours.

Prerequisite(s): ASL-1010 Beginning American Sign Language I, or departmental approval: comparable knowledge or skills.

ASL-1100 Deaf Culture

03 Semester Credits

Focuses on cultural differences and similarities between the hearing and deaf communities. Topics may include special devices utilized by people who are deaf, ADA laws, stories of famous people involved in deaf community, and literature by and about individuals who are deaf. Visitations outside the classroom may be required.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ASL-1010 Beginning American Sign Language I, or departmental approval: comparable knowledge or skills.

ASL-1800 Special Topics in American Sign Language

1-3 Semester Credits. See page X-5 for course description.

ASL-2010 Intermediate American Sign Language I

04 Semester Credits

Focuses on signs, body language, and facial expressions with emphasis on more complex conversational situations.

Practice at advanced beginner level. Study of fingerspelling.

Lecture 03 hours. Laboratory 02 hours.

Prerequisite(s): ASL-1020 Beginning American Sign Language II, or departmental approval: comparable knowledge or skills.

ASL-2020 Intermediate American Sign Language II

04 Semester Credits

Integrates facial expressions and body language in intermediate level. Practice receptive skills in a dialogue mode. Students interact in deaf clubs utilizing skills developed,

Lecture 03 hours. Laboratory 02 hours.

Prerequisite(s): ASL-2010 Intermediate American Sign Language I, or departmental approval: comparable knowledge or skills.

ASL-2410 Advanced American Sign Language

03 Semester Credits

Study of particular dialogues and drills, both from text and original work. Practice at advanced level, receptively and expressively. Learning variations in signs to understand a wide variety of ASL signs. Volunteer work in schools and/or churches to enhance skills and interact with deaf individuals.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ASL-2020 Intermediate American Sign Language II, or departmental approval: comparable knowledge or skills.

ASL-2800 Special Advanced Topics in American Sign Language

1-3 Semester Credits. See page X-5 for course description.

Course Descriptions

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Anthropology - ANTH

ANTH-1010 Cultural Anthropology

03 Semester Credits

Introduction to cultural study of human societies. Examples from various cultures within the United States and around the world used to provide understanding of cultural differences and similarities. Will relate current findings, perspectives and methods used by anthropologists in all fields.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

ANTH-1020 Physical Anthropology

03 Semester Credits

Study of humans as biological organisms. Major topics include genetics, evolution and variation, fossil record, and living primates.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

ANTH-1030 Archaeology

03 Semester Credits

Investigation of the past through current methods and perspectives of archaeology. Presentation of significant archaeological findings and interpretation from selected parts of the world.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

ANTH-1800 Special Topics in Anthropology

1-3 Semester Credits. See page X-5 for course description.

ANTH-1820 Independent Research in Anthropology

1-3 Semester Credits. See page X-6 for course description.

ANTH-2010 Peoples and Cultures of the World

03 Semester Credits

Cross cultural understanding of universal human concerns and issues affecting particular regions and cultures, using a variety of anthropological perspectives and theories.

Emphasis on concerns of non-Western peoples and cultures.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ANTH-1010 Cultural Anthropology, or SOC-1010 Introductory Sociology, or SSCI-1030 Introduction to Social Science I, or departmental approval.

ANTH-2030 Archaeological Field Methods

04 Semester Credits

Overview of methods used in field archaeology as applied to actual archaeological sites. Students receive training and experience in surveying, mapping, excavation, artifact processing and data analysis. Requires on-site student participation in the field (see Credit Schedule of classes for specific requirements).

Lecture 1-3 hours. Laboratory 0-3 hours.

Other Required Hours: 75 hrs of supervised field work.

Prerequisite(s): Departmental approval: approval of instructor.

ANTH-2800 Special Advanced Topics in Anthropology

1-3 Semester Credits. See page X-5 for course description.

ANTH-2820 Independent Advanced Study/Research in Anthropology

1-3 Semester Credits.

Applied Industrial Technology - Bricklaying

ATBL-1300 Basic Bricklaying Trade Skills

02 Semester Credits

Basic study of bricklaying trade skills involving positioning, laying up, mixing and applying mortar and joint formation.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any Applied Industrial Technology program.

ATBL-1310 Bricklaying Materials, Tools and Equipment

02 Semester Credits

Study of materials, tools and equipment used in brick and block construction.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATBL-1300 Basic Bricklaying Trade Skills, or concurrent enrollment.

ATBL-1320 Basic Construction Drawings

01 Semester Credit

Study of construction drawings to determine specifications, layout of pattern bonds, measurements related to laying out, laying up, dimensioning, estimating and planning.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): ATBL-1310 Bricklaying Materials, Tools and Equipment, or concurrent enrollment.

ATBL-1330 Wall Construction I

02 Semester Credits

Study of wall construction, grouting, layout, laying up, pattern bond pointing, parqing, and caulking. Use of reinforced masonry also studied.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATBL-1300 Basic Bricklaying Trade Skills, or concurrent enrollment.

ATBL-1340 Arch Construction I

02 Semester Credits

Beginning study of construction of arches. Topics include types of arches, parts and dimension of arches, and laying out centers for arches. Focuses on constructing segmental and jack arches.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATBL-1300 Basic Bricklaying Trade Skills, or concurrent enrollment.

ATBL-1370 Construction Trades Safety

01 Semester Credit

Study of safe practices on job, basic first aid, and OSHA requirements for construction trades.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any AIT program.

ATBL-1530 Wall Construction II

02 Semester Credits

Advanced study of wall construction to include cavity, retaining, cantilever, gravity retaining, intersecting, and garden and foundation/basement walls.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATBL-1330 Wall Construction I, or concurrent enrollment.

ATBL-1540 Arch Construction II

02 Semester Credits

Study of basic plans to identify information included in a set of written specifications pertaining to concrete and to estimate amount of materials needed for project.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATBL-1340 Arch Construction I, or concurrent enrollment.

ATBL-1800 Special Topics in Bricklaying

1-3 Semester Credits. See page X-5 for course description.

ATBL-1950 Construction Trades Field Experience

01-03 Semester Credits

Limited to students in the Apprenticeship Program of the Construction Trades Joint Apprenticeship Training Committees. Employment in an approved training facility. Students may earn up to three credits in one semester and repeat to a cumulative maximum of nine credits.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Field Experience: 12 to 36 hours per week.

Prerequisite(s): Formal acceptance into the Joint Apprenticeship Training Committee Apprenticeship Program; and ATBL-1310 Bricklaying Materials, Tools and Equipment.

ATBL-2510 Advanced Brick-Block Construction

02 Semester Credits

Advanced study of brick-block construction of corners, piers, pilasters and columns.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATBL-1530 Wall Construction II, and ATBL-1540 Arch Construction II or concurrent enrollment; or departmental approval.

ATBL-2520 Step and Paving Assembly Construction

02 Semester Credits

Study of masonry steps and paving assembly construction procedure, layout and lay-up.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATBL-1320 Basic Construction Drawings or concurrent enrollment; or departmental approval.

ATBL-2530 Door and Window Construction

02 Semester Credits

Study of door and window construction to produce rough and finish masonry openings.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATBL-1320 Basic Construction Drawings, and ATBL-1340 Arch Construction I or concurrent enrollment; or departmental approval.

ATBL-2710 Advanced Bricklaying Skills

03 Semester Credits

Study of advanced bricklaying skills for the construction of flashings, lintels, chases, chimneys, vents and control joints.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ATBL-2530 Door and Window Construction or concurrent enrollment; or departmental approval.

Applied Industrial Technology – Carpentry

ATCT-1300 Carpentry I

02 Semester Credits

Introduction to carpentry apprenticeship. Includes in-depth overview of OSHA regulations as related to construction industry, a history of labor - management association as it was in past and how Joint Apprenticeship Committees interact today. Safety principles, including first aid and CPR.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any Applied Industrial Technology program.

ATCT-1310 Carpentry Safety

02 Semester Credits

Introduction to hazards and dangers of elevated working conditions, including those that involve use of ladders and scaffolds. Hazards of working in confined spaces of limited means of egress with limited natural ventilation that are not meant for continuous occupancy will be examined. Use of proper safety procedures and safety equipment as prescribed by OSHA and/or safety enforcement agencies will be emphasized.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any Applied Industrial Technology program.

ATCT-1330 Concrete Form Work I

02 Semester Credits

Introduction to construction of any concrete forms. Includes explanation of reading of construction working drawings, layout, fabrication, and erection of standard wall, column, or wall/column footing component.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any Applied Industrial Technology program.

ATCT-1350 Interior Systems I

02 Semester Credits

Introduction to Interior Systems industry and construction practices, tools, materials, and equipment used to lay out, fabricate, and install metal stud walls, related blueprint reading skills, wall and ceiling systems, soffits, frames and hardware. Includes applicable math, concepts, and safety regulations as prescribed in OSHA Standards.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any AIT program.

ATCT-1370 Layout

02 Semester Credits

Introduction to use of builder's level, transit level, and digital theodolite in construction industry for establishment of elevations and grades and building layout. Includes required math and geometry concepts and interpretation of site drawings and topographical maps generally used in construction industry.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any Applied Industrial Technology program.

Course Descriptions

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ATCT-1380 Framing

02 Semester Credits

Introduction to basic principles of framing including terminology, print information, design, codes and systems.
Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any Applied Industrial Technology program.

ATCT-1390 Welding for Carpentry

02 Semester Credits

Introduction to base level knowledge and skill in elementary shielded metal arc welding techniques and practices. Included are general theory of arc welding process, operation of welding equipment, welding safety practices, electrode characteristics and selection, identification of types weld joints, and guided instruction and practice in arc welding.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any Applied Industrial Technology program.

ATCT-1490 Heavy Gauge Steel

02 Semester Credits

Introduction to fundamentals of framing with steel. Training will include techniques on elevated floor construction, interior/exterior wall construction, and roof framing assemblies using prefabricated steel trusses and/or truss templates.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any Applied Industrial Technology program.

ATCT-1550 Roof Framing I

02 Semester Credits

Introduction to construction of common roof types to include reading of construction working drawings, application of mathematical concepts and calculations related to roof structure, layout, fabrication, and erection of roof members.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any Applied Industrial Technology program.

ATCT-1610 Interior Finish

02 Semester Credits

Introduction to skills needed to determine material take off and layout of finish elements. Elements include all carpentry involving trim doors, windows and running moldings.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATCT-1380 Framing.

ATCT 1710 Stairs Layout

02 Semester Credits

Introduction to basic principles of stair layout including stair terminology, print information, design, codes, and types.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any Applied Industrial Technology program.

ATCT-1800 Special Topics in Carpentry

1-3 Semester Credits

ATCT-2220 Roof Framing II

02 Semester Credits

Introduction to construction of hip roofs and intersecting roofs to include reading of construction working drawings, applying terminology and math concepts related to hip roof type construction, and layout, fabrication, and erection of hip roof members.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATCT-1550 Roof Framing I, or departmental approval.

ATCT-2320 Carpentry II

02 Semester Credits

Comprehensive study of carpentry essentials including wood properties, measurement techniques, types and applications of various common fasteners, properties of different woods, identification and use of handtools, safety considerations, and use of circular portable saw.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATCT-1300 Carpentry I, or departmental approval.

ATCT-2340 Concrete Form Work II

02 Semester Credits

Techniques and skills for building concrete stairways for large commercial buildings such as schools, office buildings, hospitals, warehouses, factories, mills, and other similar structures.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATCT-1330 Concrete Form Work I, or departmental approval.

ATCT-2360 Interior Systems II

02 Semester Credits

Skills and techniques required to install a variety of acoustical ceiling systems. Includes identification of proper tools and correct use, reading blueprints, focus on suspended grid bar systems, and review of architectural terms.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATCT-1350 Interior Systems I, or departmental approval.

ATCT-2500 Exterior Finish

02 Semester Credits

Introduction to basic elements of exterior finish which include roofing, door and window framing, wall finish, porches, and decks. Product types, weather and heat considerations are examined.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATCT-1610 Interior Finish or concurrent enrollment, or departmental approval.

ATCT-2510 Concrete Form Work III

02 Semester Credits

Interpretation of site drawings and blueprints to lay out building concrete foundations and stairways for large commercial buildings, hospitals, warehouses, factories, mills, and other similar structures. Interpret site drawings and blueprints to lay out bridges and retaining walls for highways, dams, and similar non-building structures.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATCT-2340 Concrete Form Work II, departmental approval.

Course Descriptions

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ATCT-2520 Stairs Installation

02 Semester Credits

Introduction to art and science of laying out, fabricating, and installing fine staircases which are mitered and have hard balustrades using newel posts, rails, and balusters.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any Applied Industrial Technology program.

ATCT-2540 Roof Framing III

02 Semester Credits

Introduction to layout procedures and mathematical derivation of rafter lengths found in roofs having more than one slope and containing various offsets. Included are roofs containing all or part of hexagonal shapes or octagonal shapes. Cutting and fabrication of all rafters is integral part of course.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATCT-2220 Roof Framing II or concurrent enrollment, or departmental approval.

ATCT-2800 Special Advanced Topics in Carpentry

1-3 Semester Credits

ATCT-2990 Contracting in a Diverse World

03 Semester Credits

Capstone course in applied industrial technology. Study of construction contracting principles, procedures and practices including marketing, estimating, and subcontracting practices. Includes working with diverse groups such as union and non-union sites and non-traditional workforces.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to an Applied Industrial Technology program.

Applied Industrial Technology - Cement Masonry ATCM

ATCM-1300 Fundamentals of Concrete Construction

02 Semester Credits

Study of concrete: ingredients, steps in production, factors of concrete mix design, uses for various types of concrete, admixtures and tests for various types of fresh concrete.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any Applied Industrial Technology program.

ATCM-1310 Applied Technical Communications and Economics

02 Semester Credits

Principles of effective industrial reports and letters; obtaining data; analysis of data; outlining and organizing of materials; letter writing techniques. Effective communication in writing, listening and speaking to meet industrial needs emphasized.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any AIT program.

ATCM-1320 Basic Plan Reading

02 Semester Credits

Study of basic plans to identify information included in a set of written specifications pertaining to concrete and to estimate amount of materials needed for project.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any AIT program.

ATCM-1330 Concrete Construction Equipment

02 Semester Credits

Study of tools used in concrete construction for testing forming, placing and finishing fresh concrete with emphasis on care and safe use of equipment.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATCM-1300 Fundamentals of Concrete Construction, or concurrent enrollment.

ATCM-1340 OSHA Standards for the Construction Industry

03 Semester Credits

Study of occupational safety and health standards for construction industry.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any AIT program.

ATCM-1370 Construction Trades Safety

01 Semester Credit

Study of safe practices on job, basic first aid, and OSHA requirements for construction trades.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any AIT program.

ATCM-1390 Basic Welding Skills

02 Semester Credits

Basic welding skills emphasized to obtain a thorough knowledge of welding safety related to electrical shock, body protection, accident prevention, reporting, and ventilation. Fundamentals of arc and oxy-acetylene welding studied.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any AIT program.

ATCM-1400 Concrete/Cement Forming and Finishing

03 Semester Credits

Study of various types of forms, placement of forms, placing leveling and finishing of concrete.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ATCM-1300 Fundamentals of Concrete Construction, or concurrent enrollment.

ATCM-1410 Commercial/Residential Form and Finish Work

04 Semester Credits

Study of building of steps, sidewalks, patios and driveways. Discussion includes types, finishes, and nosing.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): ATCM-1400 Concrete/Cement Forming and Finishing, or concurrent enrollment.

ATCM-1800 Special Topics in Cement Masonry

1-3 Semester Credits

ATCM-2320 Blueprint Fundamentals-Construction

02 Semester Credits

Study of basic plans to identify information included in a set of written specifications pertaining to concrete and estimating amount of materials needed for the project.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATCM-1320 Basic Plan Reading, or concurrent enrollment; or departmental approval.

ATCM-2500 Fundamentals of Concrete Curing

01 Semester Credit

Study of fundamentals associated with concrete curing, reason for curing and types of curing.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): ATCM-1400 Concrete/Cement Forming and Finishing, or concurrent enrollment; or departmental approval.

ATCM-2510 Fundamentals of Concrete Joints

01 Semester Credit

Study of joints in concrete including types, locations, sealants, maintenance and reason for joints.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): ATCM-1410 Commercial/Residential Form and Finish Work, or concurrent enrollment; or departmental approval.

ATCM-2520 Basic Cement Patching

02 Semester Credits

Study of essentials to properly rub and sack walls for patching and steps necessary to take when preparing walls.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATCM-1400 Concrete/Cement Forming and Finishing, or concurrent enrollment; or departmental approval.

ATCM-2530 Concrete Restoration

03 Semester Credits

Study of surface defects in concrete and how to recognize, recommend preventative treatment, techniques and remedies to restore surface.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ATCM-2520 Basic Cement Patching, or concurrent enrollment; or departmental approval.

ATCM-2700 Advanced Concrete Finishing

03 Semester Credits

Advanced study of placing and finishing a slab; placing and finishing concrete floors with various types of finishes.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ATCM-1400 Concrete/Cement Forming and Finishing, or concurrent enrollment; or departmental approval.

ATCM-2710 Concrete Specialty Products

01 Semester Credit

Study of pavements: types of equipment used on pavement, procedures necessary to finish pavements and operation of paving machine.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): ATCM-2530 Concrete Restoration, or concurrent enrollment; or departmental approval.

ATCM-2800 Special Advanced Topics in Cement Masonry

1-3 Semester Credits

Course Descriptions

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Applied Industrial Technology - Drywall Finishing ATDW

ATDW-1310 Tools and Methods of Drywall Finishing

02 Semester Credits

Introduction to basic tools and procedures of drywall finishing trade including identification, components, and use of hand and power tools, and cleaning, drying, and storage of tools.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any Applied Industrial Technology program.

ATDW-1330 Materials and Methods of Drywall Finishing

02 Semester Credits

Introduction to basic materials and procedures of drywall finishing trade including identification of boards, fasteners, adhesives, beads, and trim; measuring and cutting beads and trim; application of beads to various surfaces and structures.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any AIT program.

ATDW-1620 Taping Tools and Procedures

02 Semester Credits

Instruction in tools and procedures in drywall taping and wiping including tools and materials, dry taping, wet taping, hopper and banjo taping methods, and wiping procedures.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any AIT program.

ATDW-2310 Automatic Taping Tools

02 Semester Credits

Instruction in principles and procedures of automatic tool taping including tools and equipment, the Bazooka automatic taping tool, loading, holding positions, and procedures for automatic tool taping individually and in teams.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATDW-1620 Taping Tools and Procedures, or departmental approval.

ATDW-2330 Finishing Boxes

02 Semester Credits

Instruction in use of finishing boxes including preparing, repairing, and loading flat finishing boxes; procedures for filling flats, butt joints and ceiling joints; procedures for using fastener spotters and angle finishing boxes; and cleanup procedures.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATPT-1300 Introduction to Painting, Drywall Finishing and Glazing, and ATDW-1310 Tools and Methods of Drywall Finishing, or departmental approval.

ATDW-2340 Texturing

02 Semester Credits

Instruction in texturing, including types of textures, surface preparation, texturing machines and application, spraying techniques, using color, texturing large areas, repairing damaged areas, and hand texturing.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATPT-1300 Introduction to Painting, Drywall Finishing and Glazing, and ATDW-1310 Tools and Methods of Drywall Finishing, or departmental approval.

ATDW-2350 Filling Compounds and Procedures

02 Semester Credits

Instruction in basic elements and procedures for using filling compounds including terminology, selection of filler, elements of drying, application of filler with trowel and broad knife, and finish sanding.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATPT-1300 Introduction to Painting, Drywall Finishing and Glazing, and ATDW-1310 Tools and Methods of Drywall Finishing, or departmental approval.

Applied Industrial Technology - Electrical Construction

ATEL-1300 Direct Current Fundamentals

03 Semester Credits

Study of Ohm's Law, electronic theory, series, and parallel circuits, Kirchoff's Law, motor sizes, wire sizes, voltage drop, wiring systems, kinds of wire insulation, and troubleshooting

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any Applied Industrial Technology program.

ATEL-1310 Alternating Current Fundamentals

03 Semester Credits

Study of three and four wire two-phase circuits, three-phase induction star and delta circuits, power balanced and unbalanced loads, transformer principles, characteristics and connection, electrical instruments, self synchronous systems, protective relays, lamps and illumination.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ATEL-1300, Direct Current Fundamentals or departmental approval: admission to any AIT program.

ATEL-1330 National Electric Code

02 Semester Credits

Study of the national and local electrical codes for wiring and apparatus. Covers wiring design and protection, wiring methods and materials, general use equipment, special occupancies, special equipment, and use of table and diagrams for solution of practical wiring problems.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any AIT program.

ATEL-1350 Industrial Safety

01 Semester Credit

Selected topics to cover occupational safety and health. Students become familiar with rules and regulations for OSHA compliance.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any AIT approval.

ATEL-1360 Blueprint Fundamentals – Electrical

02 Semester Credits

Introduction to blueprints. Topics include identifying components, mechanical and electrical symbols, diagrams, architectural views, and common scales. Also includes blueprint specification, schedules, and system integration.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any AIT program.

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ATEL-1800 Special Topics in Electrical Construction 1-3 Semester Credits

ATEL-2300 Industrial Electronics Fundamentals I 03 Semester Credits

Introduction to electronics which includes semi-conductor theory and circuits, transistor theory and circuits, power supplies, integrated circuits, oscillator circuits, photosensitive devices, and pulse circuits.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ATEL-1310 Alternating Current Fundamentals, or departmental approval.

ATEL-2310 Industrial Electronics Fundamentals II 03 Semester Credits

Study of electricity as it relates to environmental control systems, fire alarms, security systems, smoke detectors and HVAC systems.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ATEL-2300 Industrial Electronics Fundamentals I, or departmental approval.

ATEL-2350 Programmable Logic Controllers 03 Semester Credits

Introduction to programming techniques, hardware configuration and theory of operation of a programmable logic controller. Systems to be studied may include the Allen-Bradley PLC 2 and Modicon Industrial Controllers.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ATEL-1300 Direct Current Fundamentals, or departmental approval.

ATEL-2500 AC/DC Motors and Generators 04 Semester Credits

Direct current motor construction and principles of operation, kinds of D.C. motors and their characteristics and control, permanent magnet motor movement, ammeter and voltmeter construction, operation care and use, watt-meter and wheatstone bridge area. Other topics include DC motors, alternators rotating magnetic fields, AC motors, speed control, types of winding, and introduction to AC motor control.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): ATEL-1300 Direct Current Fundamentals, and ATEL-1310 Alternating Current Fundamentals; or departmental approval.

ATEL-2510 Motor Controls 03 Semester Credits

Introduction to DC and AC motor control circuits.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ATEL-2310 Industrial Electronics Fundamentals II, or concurrent enrollment; or departmental approval.

ATEL-2700 Electrical Instrumentation 04 Semester Credits

Introduction into various types of instruments employed in industry, along with operating principles and actual application. Instruments covered are those used in measurement, transmission, and control of various industrial processes.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): ATEL-2310 Industrial Electronics Fundamentals II, or concurrent enrollment; or departmental approval.

ATEL-2800 Special Advanced Topics in Electrical Construction 1-3 Semester Credits

Applied Industrial Technology – Floorlaying

ATFL-1450 Floorlaying Concepts 02 Semester Credits

Comprehensive study of floorlaying essentials, including material properties, measurement techniques, types and applications of various sheet good adhesives, identification and use of hand tools and power equipment used in the floorlaying industry. Concepts commonly found in construction blueprints including symbols, abbreviation, and conventions required in drawing interpretation. Floor preparation for installations of tile, sheet goods, carpeting, and ceramics also included.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any Applied Industrial Technology program.

ATFL-1600 Modular Tile 02 Semester Credits

Introduction to modular tile installation. Includes required math and geometric concepts for estimating materials and room layouts and interpretation of construction drawings.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any AIT program.

ATFL-1610 Jute and Action Back Carpeting 02 Semester Credits

Introduction to carpeting and manufacturing process as related to jute and action back product types. Topics include materials, hand and power tools, job preparation, layout and installation procedures and interpretation of construction drawings.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any AIT program.

ATFL-1620 Ceramics I 02 Semester Credits

Study of wall treatment and grouting, with related math and blueprint reading exercises.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any AIT program.

ATFL-1630 Wood Flooring I 02 Semester Credits

Introduction to wood flooring materials, strip, strip and plank, parquet, installation techniques and tools for installations.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATFL-1450 Floorlaying Concepts or concurrent enrollment, or departmental approval: admission to any AIT program.

ATFL-1640 Sheet Goods Concepts

02 Semester Credits

Study of floor installation requiring special treatment of adhesives and seam, sheet good products requiring interflex systems, heat seam welding or chemical welding or a combination of these topics. Special product usage, handling and application also included.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATFL-1450 Floorlaying Concepts or concurrent enrollment; or departmental approval: admission to any AIT program.

ATFL-1650 Sheet Goods – Flash Coving

02 Semester Credits

Study of products and components used in flash cove and sanitary floor installation. Topics include installation techniques, related blueprint reading techniques and proper use of applicable tools.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATFL-1450 Floorlaying Concepts or concurrent enrollment; or departmental approval: admission to any AIT program.

ATFL-1710 Velcro and Modular Carpeting

02 Semester Credits

Study of carpeting and manufacturing process as related to velcro and modular product types. Includes materials, hand and power tools, job preparation, layout and installation procedures, and interpretation of construction drawings.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATFL-1450 Floorlaying Concepts or concurrent enrollment; or departmental approval: admission to AIT program.

ATFL-1720 Sheet Goods – Geometric Layout and Inlay

02 Semester Credits

Study of advanced floorlaying techniques used in the layout and installation of sheet goods in specialty situations including geometric shapes and producing templates.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATFL-1650 Sheet Goods – Flash Coving or concurrent enrollment, and ATFL-1450 Floorlaying Concepts or concurrent enrollment; or departmental approval: admission to any AIT program.

ATFL-1730 Unitary Back and Enhancer Back Carpeting

02 Semester Credits

Study of carpeting and manufacturing process as related to Unitary Back and Enhancer Back product types. Topics include materials, hand and power tools, job preparation, layout and installation procedures, and interpretation of construction drawings.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATFL-1450 Floorlaying Concepts or concurrent enrollment; or departmental approval: admission to AIT program.

ATFL-2300 Ceramics II

02 Semester Credits

Ceramics design, material and tile installation in wet areas such as food prep, pools, shower and laundry.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATFL-1620 Ceramics I or concurrent enrollment, or departmental approval.

ATFL-2320 Wood Flooring II

02 Semester Credits

Study of advanced flooring systems using acrylic, engineered, and laminate systems with special attention given to custom layouts such as herringbone and diagonal installations, specialty installations requiring “All Lok” systems, riser, tread, bullnose installation, and proper floor sanding techniques.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATFL-1630 Wood Flooring I or concurrent enrollment, or departmental approval.

ATFL-2400 Sheet Goods--Specialty Products

02 Semester Credits

Comprehensive study of specialty flooring systems, requiring antibacterial protection and wet areas needing moisture close tolerance installation. Includes both one-piece flash coving and heat welded seams at inside and outside corners, and cutting and fitting special components such as cove steps and cap metals.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATFL-1650 Sheet Goods-Flash Coving or concurrent enrollment, or departmental approval.

ATFL-2430 Woven and Axminster Carpeting

02 Semester Credits

Study of carpeting and manufacturing process as related to Woven and Axminster product types. Includes materials, hand and power tools, job preparation, layout and installation procedures, and interpretation of construction drawings.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATFL-1450 Floorlaying Concepts or concurrent enrollment, or departmental approval.

Applied Industrial Technology - Ironworking

ATIW-1300 Structural Steel Concepts

02 Semester Credits

Introduction to structural steel concepts, including an overview of historical use of iron and steel in construction; fundamental principles of and preparation for erection of structural steel; blueprint reading; and proper use of tools, according to OSHA regulations.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Admission to Ironworking Apprenticeship Program, or departmental approval.

ATIW-1310 Safety for Ironworkers

01 Semester Credits

Occupational safety and health standards for construction industry, in general, and ironworking trade specifically, including regulations and procedures for fall protection; electrical work; scaffolding; confined spaces; personal protective equipment; materials handling, storage, use and disposal; hand and power tools; steel erection; and cranes, derricks, hoists, elevators, and conveyors.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): Admission to Ironworking Apprenticeship Program, or departmental approval.

ATIW-1320 Steel Construction Procedures

01 Semester Credits

Steel construction procedures, including necessary individual and raising gang skills, proper use of tools, according to OSHA regulations. Introduction to bridge types and components. Blueprint reading relevant to layout and erection.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): ATIW-1300 Structural Steel Concepts or concurrent enrollment, or departmental approval.

ATIW-1330 Erection Concepts and Practices

03 Semester Credits

Principles and techniques of structural steel erection, including detailing procedures. Covers installation of temporary flooring, accurate alignment of steel assembly, safety nets and railings, and various types of connections: bolts, rivets and pins, layout and erection of bar joists, bridging, scaffolds and ladders, according to OSHA regulations, including blueprint reading.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ATIW-1300 Structural Steel Concepts or concurrent enrollment, and ATIW-1310 Safety for Ironworkers or concurrent enrollment, or departmental approval.

ATIW-1400 Principles of Reinforcing Steel

02 Semester Credits

Basic principles of reinforcing steel, using tools and methods necessary for layout and fabrication, according to engineering and placing drawings. Application of basic structural building forms to reinforce concrete structures, including structural value of footings and use of beam and slab design; history of reinforced concrete and manufacturing process of reinforcing steel; and basic types of highway structures.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATIW-1300 Structural Steel Concepts or concurrent enrollment, and ATIW-1310 Safety for Ironworkers or concurrent enrollment; or departmental approval.

ATIW-1410 Practical Applications of Reinforcing Steel

01 Semester Credits

Applications relating to placement of reinforcing steel in footings, wall, columns, beams, girders, joists and slabs and to bar splicing. Continued study of highway structures, including airport paving. Introduction to reinforcing accessories, dowels, and mechanical couplers.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): ATIW-1300 Structural Steel Concepts or concurrent enrollment, and ATIW-1310 Safety for Ironworkers or concurrent enrollment; or departmental approval.

ATIW-1600 Welding Fundamentals for Ironworkers

03 Semester Credits

Fundamentals of welding with special emphasis on the ironworking trade, including welding processes; cutting and gouging processes; operational and site safety; welding equipment and tools; and safety equipment and protective clothing.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ATIW-1300 Structural Steel Concepts, and ATIW-1310 Safety for Ironworkers, or departmental approval.

ATIW-2300 Shielded Metal Arc Welding

03 Semester Credits

Shielded metal arc welding principles and techniques, including required equipment tools and supplies; electrical and environmental safety; eye hazards associated with arc burn; and protective clothing requirements.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ATIW-1600 Welding Fundamentals for Ironworkers or concurrent enrollment, or departmental approval.

ATIW-2310 Welding Specialties

03 Semester Credits

In-depth study of welding and cutting techniques. Students will perform oxy-fuel gas welding and cutting techniques, arc cutting and gouging, and stud welding as applied to ironworking trade.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ATIW-2300 Shielded Metal Arc Welding or concurrent enrollment, or departmental approval.

ATIW-2320 Welding Blueprints and Design

03 Semester Credits

In-depth study of welding blueprint lines, arrows, views, and symbols; basic layout construction; and identification of welding positions, parts of fillet welds, groove joints and welds, and backup materials. Includes recognition, drawing, measurement calculations, and problem solving.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ATIW-2310 Welding Specialties or concurrent enrollment, or departmental approval.

ATIW-2330 Pre-Construction Planning of Specialty Applications

02 Semester Credits

Includes erection sequence and handling of specialty products. Installation of members and connections performed in compliance with OSHA regulations.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATIW-2320 Welding Blueprints and Design, or departmental approval.

ATIW-2340 Specialty Installation Equipment

02 Semester Credits

Study and use of equipment in installation of specialty building products. Safety training including employee, equipment, and jobsite safety and procedures for material handling and inspections, according to OSHA regulations.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATIW-2330 Pre-Construction Planning of Specialty Applications or concurrent enrollment, or departmental approval.

ATIW-2350 Ornamental Systems and Railings

02 Semester Credits

Installation methods for and identification of various ornamental applications, including curtainwall and window wall systems, stairs, railings, and wall handrails, and their anchors and fasteners. Use of hand and power tools for installation. Operation of various layout instruments.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATIW-2330 Pre-Construction Planning of Specialty Applications or concurrent enrollment, or departmental approval.

ATIW-2360 Ornamental Applications

02 Semester Credits

Procedures for and installation of ornamental applications, including rolling service doors, sloped walls, metal and ship ladders, toilet partitions, vanity supports, relief angles, flagpoles, and chain link fences.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATIW-2350 Ornamental Systems and Railings or concurrent enrollment, or departmental approval.

ATIW-2400 History of the Iron Workers Union

03 Semester Credits

The Iron Workers Union in America from 1896 through today, including people and events that influenced the organization.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ATIW-2350 Ornamental Systems and Railings or concurrent enrollment, or departmental approval.

ATIW-2500 Rigging and Hoisting

03 Semester Credits

Procedures of rigging and hoisting, including identification, handling, and storage of equipment: chains, hardware, reeving, slings with practice of knot tying and splicing.

Topics include characteristics and uses of cranes, procedures for inspection, safe operation, testing and maintenance of cranes, including machine assembly and set up procedures. Safety procedures and hand signaling, according to OSHA regulations.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ATIW-2360 Ornamental Applications or concurrent enrollment, or departmental approval.

Applied Industrial Technology - Glazing

ATGL-1330 Hand Tools for Glaziers

02 Semester Credits

Introduction to hand tools for glazing, including basic hand tools such as screwdrivers, wrenches, pliers; levels and transits; glass, plastic, and metal cutters; pliers, lifters, and tongs, punches, chisels, rivet guns, and taps.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any Applied Industrial Technology program.

ATGL-1620 Glass and Mirror Replacement and Installation

02 Semester Credits

Instruction in glass replacement and mirror layout, measurement, cutting, edging and mounting. Includes safety procedures, and glass installation using putty.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any AIT program.

ATGL-1630 Basic Welding

02 Semester Credits

Introduction to arc welding and oxy-acetylene cutting, including shop safety, electrode identification and classification and selection, all position welding, set up of fillet, power sources, weld size, and weld symbols.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any AIT program.

ATGL-1640 Door Fabrication and Installation

02 Semester Credits

Door fabrication and installation, including installation and maintenance of manual and power assisted revolving doors; fabrication and installation of aluminum doors; installation of specialty doors and showcases; and safety procedures and regulations.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any AIT program.

ATGL-2330 Transits, Leveling Instruments and Lasers

02 Semester Credits

Use of transits, levels, and lasers for glazing installation, including elements of instruments; types of instruments; care and handling; setting up, leveling, and using instruments; and specific applications of leveling and installation.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATPT-1300 Introduction to Painting, Drywall Finishing and Glazing, and ATGL-1330 Hand Tools for Glaziers; or departmental approval.

ATGL-2340 Advanced Welding

02 Semester Credits

Instruction in advanced welding, including oxy-acetylene, M.I.G., T.I.G., and F.C.A.W. welding processes, welding of cast iron, aluminum, copper alloys, and stainless steel, hardfacing, and plasma cutting.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATGL-1630 Basic Welding, or concurrent enrollment; or departmental approval.

ATGL-2350 Curtainwall Fabrication and Installation

02 Semester Credits

Instruction in curtainwall principles and methods, including methods and standards; layout practices and tolerances; curtainwall systems and erection procedures for I-Beam, Stickwall, and Trusswall construction.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATPT-1300 Introduction to Painting, Drywall Finishing and Glazing, and ATGL-1330 Hand Tools for Glaziers; or departmental approval.

ATGL-2370 Sealants

02 Semester Credits

Instruction in use of sealants including terminology, properties, forms, classifications, and sealant selection; sealant application, testing, and remedial caulking; joint types and design; substrate preparation primers and backer rods; safety procedures and use of MSDS sheets.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATPT-1300 Introduction to Painting, Drywall Finishing and Glazing, and ATGL-1330 Hand Tools for Glaziers; or departmental approval.

Applied Industrial Technology - Manufacturing Technology

ATMT-1100 Manufacturing Skills I

03 Semester Credits

Stresses relationship of engineering drawing to applications of manufacturing parts including lines, views, dimensioning, metric system, calculating cut of points, freehand lettering, sketching, and use of drafting tools to construct blueprint. Includes fraction to decimal conversion, drafting line using geometric equations, line types, orthographic views, isometric views, offset sections, auxiliary sections, symbols, and broken sections.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: Sponsorship in approved apprenticeship program offered by a member company, or acceptance to PMT certificate program.

ATMT-1110 Manufacturing Skills II

02 Semester Credits

Provides skills in layout techniques and operations, including bolt hole circles, location of surfaces related by non-right angle triangles, and points of tangency. Includes layout of drawing by sketching proper views from actual part.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATMT-1100 Manufacturing Skills I, or concurrent enrollment; or departmental approval: admission to AIT-Manufacturing Technology program.

ATMT-1120 Machine Operations I

06 Semester Credits

Introduction to machine shop practices to produce manufacturing parts. Includes operations of machinery, terminology, safety, measurement, layouts, print reading, machine set-ups, hand tools, measuring tools, cutting tools, and processes in production work flow. Emphasis on use of typical equipment found in conventional machine shop. Extensive hands-on projects.

Lecture 01 hour. Laboratory 15 hours.

Prerequisite(s): ATMT-1100 Manufacturing Skills I, and ATMT-1200 Machine Tool Theory or concurrent enrollment.

ATMT-1200 Machine Tool Theory

04 Semester Credits

Presents foundation for study of manufacturing methods, processes, related equipment, and tools of industry, requiring student to understand shop safety practices, job planning, feeds and speeds, layout tools and procedures, hand tools and bench work, metal cutting saws, drilling machines, lathe, milling machines, jig bore and jig grinder, surface grinder, E.D.M. and abrasives.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to AIT-Manufacturing Technology program.

ATMT-1300 Manufacturing Procedures

02 Semester Credits

Principles of blanking and/or piercing dies; bending; screw and dowel holes; die life; punches; pilots; die block construction; strippers and stock guides; shredders and knockouts; nest gages; pushers; die stops; stock material utilization; strip layouts; and die sets. Includes techniques and theory of building stamping dies with topics including cutting and forming operations, primary die components, and internal parts of complete die.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATMT-1200 Machine Tool Theory and departmental approval: admission to AIT - Manufacturing Technology program.

ATMT-1500 Manufacturing Technology Skills I

04 Semester Credits

Advanced study of relationship of engineering drawings to applications of machine shop production of precise parts, die, and mold components to provide students with theory on use of coordinate measuring machine (CMM) for machine tool trades. Machine shop engineering drawing mathematics, used in development and production of part from print in machine shop, will be stressed. Application of engineering drawing skills on projects made in shop. Emphasis on geometric dimensioning. Students will learn to read and comprehend advanced engineering drawings from various industries.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): ATMT-1200 Machine Tool Theory and departmental approval: admission into AIT - Manufacturing Technology program.

ATMT-1600 Introduction to CAD

02 Semester Credits

Introduction to computer systems and computer-aided drafting (CAD) software as tools used to produce engineering drawings. Keyboarding and computer operating skills are overlaid with software commands. Command topics include line coordinate systems, circles and arcs, geometry creation, text styles, editing geometry and text, controlling drawing display, drawing aids, layers, blocks, hatching, and dimensioning.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): ATMT-1300 Manufacturing Procedures or concurrent enrollment, and departmental approval: admission to AIT - Manufacturing Industrial Technology program.

ATMT-1800 Special Topics in Manufacturing Technology

1-3 Semester Credits

ATMT-1950 Field Experience

02 Semester Credits

Practical application of manufacturing concepts in field. Limited to students in the apprenticeship program of the Manufacturing Trades with employment in approved training facility. May be repeated up to four times.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Field Experience: 24 hours per week.

Prerequisite(s): ATMT-1100 Manufacturing Skills I or concurrent enrollment, and departmental approval: admission to AIT - Manufacturing Technology program.

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ATMT-2120 Machine Operations II

06 Semester Credits

Theory and application of use of engine lathe, planing machines, milling machines, grinders, quality control, metallurgy, and fasteners. Emphasis on use of typical equipment found in conventional machine shop. Extensive hands on projects.

Lecture 01 hour. Laboratory 15 hours.

Prerequisite(s): ATMT-1120 Machine Operations I, and ATMT-1110 Manufacturing Skills II, and ATMT-1500 Manufacturing Technology Skills I or concurrent enrollment.

ATMT-2300 Advanced Manufacturing Procedures

02 Semester Credits

Capabilities of computer aided design (CAD) systems are covered. Students will be required to produce working engineering drawings. Instruction in tool path generation, local CNC programming and 2D simulation, including capabilities of computer aided manufacturing (CAM) systems.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): ATMT-1600 Introduction to CAD, and departmental approval.

ATMT-2400 Advanced Die Making

02 Semester Credits

Study of most important elements of die function and performance. Resource for apprentices, tool designers, and others who need a working reference on design, construction, and use of stamping dies.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATMT-2500 Manufacturing Technology Skills II, and departmental approval.

ATMT-2410 Advanced Moldmaking

02 Semester Credits

Study of fundamentals of mold construction, processes and construction of plastic molds such as compression, transfer, pressure molding of non-ferrous alloys, rubber molds, dies cast molds, and injection molds. Includes foundations of mold construction, depending on design of part, material used, equipment available, and ingenuity of moldmaker.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATMT-2500 Manufacturing Technology Skills II, and departmental approval.

ATMT-2420 Advanced Precision Machining

02 Semester Credits

Advanced study of relationship of materials, fixtures, and special machining operations as they relate to applications of machine shop production of precise parts, dies, and mold components. Provides theory on use of machining exotic materials, hard turning, machining of plastics, fourth and fifth axis programming, coolants and specialty inserts. Included are practical applications and machine shop mathematics formulas used in fixture and holding device design. Provides knowledge of castings, weldments, tool coatings and manufacturing methods that are becoming part of today's technology such as "waterjets and lasers". Students will learn advanced metallurgy processes and standard procedures for troubleshooting all types of manufacturing projects.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATMT-2500 Manufacturing Technology Skills II, and departmental approval.

ATMT-2500 Manufacturing Technology Skills II

04 Semester Credits

Study of relationship of engineering drawings to applications of manufacturing part for CNC machines, screw machines, mold, and die components. Topics include dimension and tolerance; form tolerances; calculation of tolerance using equations; calculation of tolerances using standard shop formulas; profile and run out tolerances; location tolerances; geometric dimensioning; geometric applications; transferring engineering drawing using computer graphics; and development of engineering drawing with computer.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): ATMT-2300 Advanced Manufacturing Procedures or concurrent enrollment, and departmental approval.

ATMT-2600 CNC Programming/Operations

02 Semester Credits

Fundamentals of computer application as aid to machining processes. Emphasis on engineering drawing analysis, using trigonometry and other forms of mathematics to determine programming points; ascertaining implied part dimensions; determinations of machining parameters; calculation of speeds; feeds and tool offset; establishment of work zero and tool home positions. Manual programming of computer numerical control (CNC) machines using G-codes; tooling and set-up of CNC lathes and milling machines for machining operations; verification of toolpaths by simulation; and operating CNC machines to produce mechanical parts.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): ATMT-2300 Advanced Manufacturing Procedures or concurrent enrollment, and departmental approval.

ATMT-2620 CAM Principles

02 Semester Credits

Study of geometric modeling, using selected CAD/CAM packages to graphically model parts in 2D, 3D wire-frame and solid, generating G-codes, post-processing G-codes into formats interpretable by given CNC controllers. Topics include editing G-codes with verification of toolpaths in 3D and solid model simulation, downloading path programs into CNC turning and milling centers; and machining parts, and using metrology methods to check dimensional and geometrical accuracy of produced parts.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): ATMT-2600 CNC Programming/ Operations, and departmental approval.

ATMT-2700 Manufacturing Technology Skills III

04 Semester Credits

Advanced study of manufacturing methods, processes, related equipment, and tools of industry, requiring student to understand standard requirements to being a Journeyman Tool and Diemaker, Moldmaker, Precision Machinist, Precision Screw Machine operator, or Precision CNC operator. Topics include practices of job planning, maximum use of shop supplies, and how to work independently, efficiently and effectively. Scope is to demonstrate thin margin that is required to making a job profitable, helping student to troubleshoot problems that may occur with effective problem solving methods and techniques.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): ATMT-2500 Manufacturing Technology Skills II, and departmental approval.

ATMT-2800 Special Advanced Topics in Manufacturing Technology

1-3 Semester Credits

ATMT-2900 Manufacturing Operation Principles

03 Semester Credits

Capstone course in manufacturing technology. Topics include manufacturing flow, quoting, tool and materials supply inventory control, outsourcing, supplier tracking and UCC coding.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ATMT-2700 Manufacturing Technology Skills III or concurrent enrollment.

Applied Industrial Technology - Operating Engineers

ATOE-1100 Operating Engineering Concepts

04 Semester Credits

Basic concepts of compaction, compaction equipment, design of paving operations, and design concepts of asphalt and skid steer loaders. Tractor-scraper and oiler responsibilities also included.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any Applied Industrial Technology program.

ATOE-1200 Basic Mechanical Concepts

03 Semester Credits

Introduction to analysis of fuels, components and principles of fuel systems, common units, air intake systems, cooling system designs and maintenance, hydraulic systems including Pascal's law, basics of engine electrical systems, history, development and theory of internal combustion engines. Discussion on function of clutches, basics of power train, use of brakes, and components of tracks and tire construction, section, maintenance and storage.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any AIT program.

ATOE-1650 Graders and Plans

02 Semester Credits

Introduction to graders operations, safety information fundamentals, terminology and various support grader operations, pre and post operations, methods of finish grading, and fundamentals of construction leveling. Topics include terminology of laser and laser machine controls; proper set-up procedures; safe work practices in the use of lasers and components of laser machine controls; and common highway plans for construction projects including introduction to basic plans, their purpose, and learning how to interpret them.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any AIT program.

ATOE-1700 Paving, Tractor, Backhoe Operators

03 Semester Credits

Introduction to design concepts of paving, identifying operation controls of any hydraulic and loader equipment, basic operations and maintenance safety of equipment, standard and conventional scraper, differentiate one-engine and two-engine scrapers, inspection and start-up, and safety procedures.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any AIT program.

ATOE-2100 Mobile Crane

02 Semester Credits

In-depth focus on mobile cranes. Topics include components and parts, cranes signals, communications, operational safety in set-up and OSHA standards and regulations, and using load charts to calculate load weight. Also includes wire rope and rigging, and electrical hazards.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATOE-1100 Operating Engineering Concepts, or departmental approval.

ATOE-2200 Mechanical Repair

03 Semester Credits

Study of major mechanical systems. Detailed troubleshooting practice and procedures. Clutch diagnosis and repair, types of power trains and undercarriage maintenance also included.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ATOE-1200 Basic Mechanical Concepts, or departmental approval.

ATOE-2600 Bulldozer Practice

03 Semester Credits

Study of standard features, standard procedures, tools, inspection, and controls of bulldozers. Topics include attachments, terminology, inspection and controls.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ATOE-1650 Graders and Plans, or ATOE-2640 Advanced Grader Practice or concurrent enrollment; or department approval.

ATOE-2620 Backhoe Practice

03 Semester Credits

Study of standard features, standard procedures, tools, inspection, and controls of backhoes. Topics include attachments, terminology, inspection, and controls.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ATOE-1700 Paving, Tractor, Backhoe Operators, or departmental approval.

ATOE-2640 Advanced Grader Practice

03 Semester Credits

Study of standard features, standard procedures, tools, inspection, and controls of graders. Topics include attachments, terminology, inspection, and controls.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ATOE-1650 Graders and Plans, or ATOE-1700 Paving, Tractor, Backhoe Operators; or departmental approval.

ATOE-2650 Safety Training Passport

01 Semester Credit

Introduction to the Occupational Safety and Health Act (OSHA). Topics include employee responsibilities and rights, standards, and basic hazard training.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): ATOE-1100 Operating Engineering Concepts, or departmental approval.

ATOE-2660 Grader Safety

02 Semester Credits

Application of safety operations of graders. Topics include reading warning signs and labels, avoiding general hazards, monitoring systems and cab features, and operation techniques and towing.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATOE-1650 Graders and Plans, or ATOE-2640 Advanced Grader Practice or concurrent enrollment; or departmental approval.

ATOE-2670 Rough Terrain Forklift Operation

02 Semester Credits

In-depth focus on OSHA regulations regarding industrial trucks, specifically OSHA 1910.178. Also includes characteristics of forklifts, identification of components of a truck and its functions, safety operations and safety equipment used on forklifts.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATOE-1100 Operating Engineering Concepts, and ATOE-1650 Graders and Plans; or departmental approval.

ATOE-2680 Hazardous Material Handling and Field Safety

02 Semester Credits

Introduction to governmental laws and agencies involving worker's health and safety protection. In-depth study of hazardous waste and emergency response operations, including the formation of Occupational Safety and Health Administration (OSHA). Regulations pertaining to specific rights to Code of Federal Regulations - OSHA 29 CFR 1910.120 {The Access to Exposure and Medical Records Standard}, and decontamination procedures. Topics also include advanced concepts in informational programs, heat and cold stress, normal cooling mechanisms, heat-related illnesses, identifying signs of heat and cold stress and their prevention, diesel exhaust risks, asphalt emissions, Respiratory Standard Act 1910.134, and respiratory protection.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATOE-1100 Operating Engineering Concepts, and ATOE-1650 Graders and Plans; or departmental approval.

Applied Industrial Technology - Painting

ATPT-1300 Introduction to Painting, Drywall Finishing and Glazing

02 Semester Credits

Introduction to basic painting trades skills, including apprenticeship rights and responsibilities; painting, drywall finishing, glazing, and sign and display terminology; tools, materials, and equipment; preparation and application procedures; and safety practices.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any Applied Industrial Technology program.

ATPT-1320 Safety Standards for Construction (OSHA-10)

03 Semester Credits

General instruction for occupational safety and health, including safety rule and procedures for fall protection, electrical work, scaffolding, ladders, confined spaces, personal protective equipment, and other trade related safety procedures. OSHA-10 certification will be completed.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any AIT program.

ATPT-1330 Filling Compounds and Procedures

02 Semester Credits

Instruction in basic elements and procedures for using filling compounds, including terminology, selection of filler, elements of drying, application of filler with trowel and broad knife, and finish sanding.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any AIT program.

ATPT-1340 Wall Preparation and Repair

02 Semester Credits

Instruction in wall preparation and repair, including pre-job inspection, preparation of job site, and repair of wallboard, painted surfaces, plaster, and stains.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any AIT program.

ATPT-1620 Wood Finishing

02 Semester Credits

Instruction in principles and procedures in wood finishing, including characteristics of woods, specifications and finishing procedures, preparation of surfaces, and maintenance and repair of finishes.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any AIT program.

ATPT-1630 Color Mixing and Matching

02 Semester Credits

Instruction in color mixing and matching, including color terminology and theory, lighting and surface effects of color, use of light boxes and viewing aids, and sequence and techniques of color mixing and matching.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any AIT program.

ATPT-1640 Rigging and Hoisting

02 Semester Credits

Introduction to basic procedures of rigging and hoisting including rope materials, care, and handling; knot tying; slings; rigging hardware and hoisting techniques; hand signals; and safety procedures.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATPT-1320 Safety Standards for Construction (OSHA-10), or departmental approval: admission to any AIT program.

ATPT-1650 Blueprints I: Construction Fundamentals

02 Semester Credits

Introduction to basic principles of blueprint reading including terminology, types of drawings, specifications and schedules, lines, symbols, scales, dimensions, and uses for painting crafts.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any AIT program.

ATPT-1660 Labor in American Society

02 Semester Credits

Instruction in nature of work and role of unions in American society, including history of workers and unions from early republic to contemporary era, role of unions at workplace and in society, relationship of workers and unions to economy, law, and democracy.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to any AIT program.

ATPT-2310 Wallcovering and Paperhanging

03 Semester Credits

Instruction in principles and application of wallcoverings, including types of wallcoverings, surface preparation, rollage estimates, matching prints and patterns, pasting, and trimming techniques.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ATPT-1300 Introduction to Painting, Drywall Finishing and Glazing, and ATPT-1320 Safety Standards for Construction (OSHA-10), or departmental approval.

ATPT-2320 Safe Work Practices

03 Semester Credits

Instruction in basic and advanced safe work practices, including general safe work practices, power tools, shop machinery, and advanced OSHA-30 rules.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ATPT-1300 Introduction to Painting, Drywall Finishing and Glazing, and ATPT-1320 Safety Standards for Construction (OSHA-10), or departmental approval.

ATPT-2330 Spray and Industrial Painting

02 Semester Credits

Introduction to basic principles of spray painting, including spray painting terminology, safety procedures, conventional air spray systems, airless spray painting, and other spray systems.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATPT-1300 Introduction to Painting, Drywall Finishing, and Glazing, and ATPT-1320 Safety Standards for Construction (OSHA-10), or departmental approval.

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ATPT-2340 Blueprints II: Advanced Reading and Estimating

02 Semester Credits

Advanced instruction in principles and application of blueprint reading, including terminology, architectural drawings, engineering drawings, and application of specifications and schedules to painting crafts.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATPT-1650 Blueprints I: Construction Fundamentals, or departmental approval.

ATPT-2350 Advanced Spray and Industrial Painting

02 Semester Credits

Advanced instruction in spray and industrial painting techniques and procedures, including equipment terminology, conventional air spray systems, electrostatic spray systems, HVLP turbine spray systems, and safety for spray painting.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATPT-2330 Spray and Industrial Painting, or departmental approval.

ATPT-2360 Foreman Training

02 Semester Credits

Instruction in foreman training including functions and responsibilities, communications skills, personnel duties, safety and substance abuse responsibilities, and legal requirements.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATPT-1300 Introduction to Painting, Drywall Finishing and Glazing, and ATPT-1320 Safety Standards for Construction (OSHA-10); or departmental approval.

ATPT-2370 Abrasives Blasting Techniques

02 Semester Credits

Instruction in abrasive blasting operations and procedures, including types of machines and their components, materials and their characteristics, selection of machine and materials to fit job, water blasting operations, and surface preparation with abrasive blasting.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATPT-1320 Safety Standards for Construction (OSHA-10), and ATPT-2320 Safe Work Practices or concurrent enrollment; or departmental approval.

ATPT-2380 Special Coatings and Decorative Finishes

02 Semester Credits

Instruction in basic principles and techniques of special coatings and decorative finishes, including terminology, and glazing, antiquing, wood graining, marbleizing, stipple finishing, texturing, gilding, and stenciling techniques and procedures.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ATPT-1630 Color Mixing and Matching, or departmental approval.

Architectural and Construction Engineering Technology - ARCH

ARCH-1430 Architectural Drafting and CAD III

03 Semester Credits

Student completes commercial architectural drawing project including development of curtain walled multi-storied, steel frame, office building and parking garage. Stairs, elevators, interior and exterior details developed with use of computer-aided drafting.

Lecture 01 hour. Laboratory 04 hours.

Prerequisite(s): ARCH-1420 Architectural Drafting and CAD II.

ARCH-1800 Special Topics in Architectural and Construction Engineering

1-3 Semester Credits

ARCH-2110 Surveying and Site Engineering

03 Semester Credits

Applications and care of surveying instruments. Use of transit and level in horizontal and vertical measurement, differential and profile. Emphasis on accurate recording of field data in note form, contours, drainage, grading, layout of vertical curves, topographic stadia and plane table work as it applies to contemporary site engineering.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): MATH-1160 Technical Mathematics I.

ARCH-2210 Mechanical Equipment for Buildings

03 Semester Credits

Introduction to mechanical systems as applicable to building construction. Water supply, waste, vent and sanitation. Heat loss, heat gain and hydronic heating systems are emphasized.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ARCH-1420 Architectural Drafting and CAD II.

ARCH-2220 Electrical Equipment for Buildings

03 Semester Credits

Forced air and solar heating systems for buildings. Electrical theory and electrical systems as applicable to building. Systems of building power distribution. Fundamentals of commercial and industrial lighting.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ARCH-1420 Architectural Drafting and CAD II.

ARCH-2310 Construction Contracts, Specifications and Procedures

03 Semester Credits

Capstone course in Architectural and Construction Engineering. Legal contracts, construction procedures, construction documents, job reporting and interpretation of specifications and general conditions as related to construction industry.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ARCH-1420 Architectural Drafting and CAD II.

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ARCH-2320 Construction Methods, Materials and Estimating

03 Semester Credits

Capstone course in Architectural and Construction Engineering. Construction methods, materials and systems and how they are estimated. Students will work with actual plans of construction project to compute cost of labor and materials, lump sum and unit costs, preliminary and final estimates.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ARCH-1420 Architectural Drafting and CAD II.

ARCH-2410 Principles of Structural Design I

03 Semester Credits

Introduction to design of structural members and systems. Steel beams, columns, base plates, fasteners, welded connections, members in tension and compression.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): MET-1600 Technical Statics.

ARCH-2420 Principles of Structural Design II

03 Semester Credits

Continuation of structured design with emphasis on wood structures including manufactured wood products and laminates. Simple concrete structures including beams, columns and footings combined with concrete mixes and testing methods.

Lecture 03 hours. Laboratory 00 hours.

ARCH-1410 Architectural Drafting and CAD I

03 Semester Credits

Working drawing techniques of domestic structure. Scale, detailing, space requirements, framing systems, dimensioning, architectural lettering and modular systems. Introduction to computer-aided architectural drafting.

Lecture 01 hour. Laboratory 04 hours.

Prerequisite(s): MIT-1220 Introduction to AutoCAD, or concurrent enrollment.

ARCH-1420 Architectural Drafting and CAD II

03 Semester Credits

Students begin work on commercial architectural drawing project, including studies of parking, public areas, structural systems, building equipment and relative codes. Projects will be computer drafted.

Lecture 01 hour. Laboratory 04 hours.

Prerequisite(s): ARCH-1410 Architectural Drafting and CAD I.

Prerequisite(s): ARCH-2410 Principles of Structural Design I.

ARCH-2800 Special Advanced Topics in Architectural and Construction Engineering

1-3 Semester Credits

ARCH-2830 Cooperative Field Experience

1-3 Semester Credits

ART - ART

ART-1010 Art Appreciation

03 Semester Credits

Designed to introduce students to basic principles of aesthetics and visual arts forms. Verbal and visual analytical approach to recognizing formal qualities, function and meaning of Western and non-Western works of art.

Understanding of content in visual language through reading, discussion, visual lectures and written assignments.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

ART-1020 Art History I

03 Semester Credits

Survey course tracing development of art in historical context. Topics include: Prehistoric, Egyptian, Ancient Near East, Greek, Roman, Byzantine, Medieval, Islamic, and Renaissance periods.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

ART-1030 Art History II

03 Semester Credits

Survey course tracing development of art in historical context. Topics include Mannerism, Baroque, Neoclassicism, nineteenth and twentieth century Western art.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

ART-1040 Survey of Non-Western Art

03 Semester Credits

Stylistic and historical overview of visual arts in traditional societies of Africa, Asia, Oceanic and the Americas.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

ART-1050 Drawing I

03 Semester Credits

Drawing course introducing basic methods, media and concepts. Emphasizes drawing from observation with development of relative value, negative/positive space and shape, composition, line, edge development, volumetric analysis of form, light and perspective. Requires a minimum of an additional 15 hours of outside classroom work to complete art projects.

Lecture 01 hour. Laboratory 05 hours. Prerequisite(s): None.

ART-1060 Drawing II

03 Semester Credits

Further development of observational and conceptual drawing skills. Emphasis on spatial, structural and compositional concepts. May be repeated for up to nine credits, three of which are applicable to degree requirements. Requires a minimum of an additional 15 hours of outside classroom work to complete art projects.

Lecture 01 hour. Laboratory 05 hours.

Prerequisite(s): ART-1050 Drawing I, or departmental approval: comparable skills.

ART-1080 Visual Design I

03 Semester Credits

Study two-dimensional design elements and principles of organization to create a foundation in visual communication. Traditional media and computer assisted sections available. Requires a minimum of an additional 15 hours of outside classroom work to complete art projects.

Lecture 01 hour. Laboratory 05 hours. Prerequisite(s): None.

ART-1090 Visual Design II

03 Semester Credits

Study additive and subtractive color theory and applications. Exploration of spatial organization in concept development of visual communication. Traditional media and computer assisted sections available. Requires a minimum of an additional 15 hours of outside classroom work to complete art projects.

Lecture 01 hour. Laboratory 05 hours.

Prerequisite(s): ART-1080 Visual Design I, or departmental approval: comparable skills.

ART-1100 Sculpture I

03 Semester Credits

Introductory principles of sculpture employing basic forming processes and traditional materials. Requires a minimum of an additional 15 hours of outside classroom work to complete art projects.

Lecture 01 hour. Laboratory 05 hours. Prerequisite(s): None.

ART-1110 Sculpture II

03 Semester Credits

Advanced study of carving, modeling and assembling in a variety of media. May be repeated up to 9 credits; only 3 credits may be applied to degree requirements. Requires a minimum of an additional 15 hours of outside classroom work to complete art projects.

Lecture 01 hour. Laboratory 05 hours.

Prerequisite(s): ART-1100 Sculpture I, or departmental approval: comparable skills.

ART-1200 Calligraphy

03 Semester Credits

Study and execution of letter forms and scripts from various cultural systems of writing. Understanding inherent beauty of scripts as graphic design elements. May be taught using hand or computer skill development. Requires a minimum of an additional 15 hours of outside classroom work to complete art projects.

Lecture 01 hour. Laboratory 05 hours. Prerequisite(s): None.

ART-1300 Introduction to Graphic Design

03 Semester Credits

Visual design based on organizational grid structure. Includes principles of selection, translation of type and images as value. Interaction and hierarchy of graphic elements for two-dimensional design including point, line and plane. Hand skills with computer option. Requires a minimum of an additional 15 hours of outside classroom work to complete art projects.

Lecture 01 hour. Laboratory 05 hours. Prerequisite(s): None.

ART-1310 Computer Graphic: Letter Form and Image

03 Semester Credits

Study and execution of letter form and image as elements of design for page concept. Requires a minimum of an additional 15 hours of outside classroom work to complete art projects.

Lecture 01 hour. Laboratory 05 hours.

Prerequisite(s): ART-1300 Introduction to Graphic Design, or departmental approval: comparable skills.

ART-1500 Art for Elementary Education

03 Semester Credits

Basic art education theory and practice in visual arts for elementary education majors. Emphasis on integration of visual arts disciplines with other subjects in elementary curriculum. Requires a minimum of an additional 15 hours of outside classroom work to complete art projects.

Lecture 01 hour. Laboratory 05 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

ART-1700 Ceramics I

03 Semester Credits

Fundamentals of basic hand building methods, glazing and decorative techniques by creating forms of increasing complexity. Broad survey of ceramic history. Requires a minimum of an additional 15 hours of outside classroom work to complete art projects.

Lecture 01 hour. Laboratory 05 hours. Prerequisite(s): None.

ART-1710 Ceramics II

03 Semester Credits

Wheel throwing skills and advanced hand building techniques in the creation of three-dimensional forms. Introduction to kiln firing and ceramic materials in clay and glaze formulation. May be repeated up to 9 credits; only 3 credits may be applied to degree requirements. Requires a minimum of an additional 15 hours of outside classroom work to complete art projects.

Lecture 01 hour. Laboratory 05 hours.

Prerequisite(s): ART-1700 Ceramics I, or departmental approval: comparable skills.

ART-1800 Special Topics in Art

1-3 Semester Credits

ART-181S Special Laboratory Topics in Art

1-3 Semester Credits

Specialized two-hour lab per credit.

ART-181T Special Laboratory Topics in Art

1-3 Semester Credits

Specialized three-hour lab per credit.

ART-1820 Independent Study in Art

1-3 Semester Credits

Course Descriptions

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ART-2000 Life Drawing I

03 Semester Credits

Introduction to drawing human figure from live model. Emphasis on constructing human figure in terms of basic shapes and planes. Introduction to anatomy for artists. Various media explored. Requires a minimum of an additional 15 hours of outside classroom work to complete art projects.

Lecture 01 hour. Laboratory 05 hours.

Prerequisite(s): ART-1050 Drawing I, or departmental approval: comparable skills.

ART-2010 Life Drawing II

03 Semester Credits

Drawing human figure from live model. Exploration of anatomy for artist with emphasis on relating human figure to three dimensional environment. Focus on craftsmanship and high level of proficiency with various media. May be repeated up to 9 credits; only 3 credits may be applied to degree requirements. Requires a minimum of an additional 15 hours of outside classroom work to complete art projects.

Lecture 01 hour. Laboratory 05 hours.

Prerequisite(s): ART-2000 Life Drawing I, or departmental approval: comparable skills.

ART-2050 Painting I

03 Semester Credits

Introduction to materials and techniques of opaque painting (oil and acrylic). Emphasis on use of color and composition. Exploration of various styles of painting. Requires a minimum of an additional 15 hours of outside classroom work to complete art projects.

Lecture 01 hour. Laboratory 05 hours.

Prerequisite(s): ART-1050 Drawing I, or departmental approval: comparable skills.

ART-2060 Painting II

03 Semester Credits

Exploration of semi-complex to complex painting problems utilizing various subjects. Emphasis placed on personal expression and independent problem-solving skills. Focus on craftsmanship and high level of proficiency with opaque painting media. May be repeated up to 9 credits; only 3 credits may be applied to degree requirements. Requires a minimum of an additional 15 hours of outside classroom work to complete art projects.

Lecture 01 hour. Laboratory 05 hours.

Prerequisite(s): ART-2050 Painting I, or departmental approval: comparable skills.

ART-2070 Watercolor

03 Semester Credits

Introduction and exploration of transparent watercolor as painting technique. Investigates various styles of painting. May be repeated up to 9 credits; only 3 credits may be applied to degree requirements. Requires a minimum of an additional 15 hours of outside classroom work to complete art projects.

Lecture 01 hour. Laboratory 05 hours.

Prerequisite(s): ART-1050 Drawing I, or departmental approval: comparable skills.

ART-2080 Portrait Drawing and Painting

03 Semester Credits

In-depth study of drawing and painting human head (portraiture) from live model. Basic anatomy explored along with relating model to three-dimensional environment. Involves use of variety of media. May be repeated up to 9 credits; only 3 credits may be applied to degree requirements. Requires a minimum of an additional 15 hours of outside classroom work to complete art projects.

Lecture 01 hour. Laboratory 05 hours

Prerequisite(s): ART-1050 Drawing I, or departmental approval: comparable skills.

ART-2100 Computer Graphic: Raster Images

03 Semester Credits

Study raster (paint) software tools for graphic design and expressive images. Techniques relating to demands in current market include scanning, processing and compositing of images. Interactive digital portfolio output. May be repeated up to 9 credits; only 3 credits may be applied to degree requirements. New software options available as course is repeated. Requires a minimum of an additional 15 hours of outside classroom work to complete art projects.

Lecture 01 hour. Laboratory 05 hours.

Prerequisite(s): ART-1080 Visual Design I (computer aided), or ART-1090 Visual Design II (computer aided), or ART-1300 Introduction to Graphic Design, or departmental approval: comparable skills.

ART-2110 Computer Graphic: Drawing

03 Semester Credits

Study 2D vector object construction for graphic design images. Develop precision in Bezier curve manipulation, hand drawn images are scanned in, traced or streamlined into vector information. Filters humanize the mathematical hard edges of images. Interactive digital portfolio output. May be repeated up to 9 credits; only 3 credits may be applied to degree requirements. New software options are available as course is repeated. Requires a minimum of an additional 15 hours of outside classroom work to complete art projects.

Lecture 01 hour. Laboratory 05 hours.

Prerequisite(s): ART-1080 Visual Design I (computer aided), or ART-1090 Visual Design II (computer aided), or ART-1300 Introduction to Graphic Design, or departmental approval: comparable skills.

ART-2150 Computer Graphic: 2D Animation/Video

03 Semester Credits

Study 2D computer-based animation mixed with video for expressive images. Industry related techniques of keyed mattes, genlock dissolves, video capture, scanning, fractal landscapes, and chroma effects. Video portfolio output. May be repeated for up to 9 credits; only 3 credits may be applied to degree requirements. New software options available as course is repeated. Requires a minimum of an additional 15 hours of outside classroom work to complete art projects.

Lecture 01 hour. Laboratory 05 hours.

Prerequisite(s): ART-1080 Visual Design I (computer aided), or ART-1090 Visual Design II (computer aided), or ART-1300 Introduction to Graphic Design, or departmental approval: comparable skills.

ART-2160 Computer Graphic: 3D Modeling and Rendering

03 Semester Credits

Study 3D computer-based modeling and rendering. Understanding planar views using polygon construction of objects with numeric input. Deformation tools/ techniques to soften form. May be repeated up to 12 credits; only 3 credits may be applied to degree requirements. Requires a minimum of an additional 15 hours of outside classroom work to complete art projects.

Lecture 01 hour. Laboratory 05 hours.

Prerequisite(s): ART-1050 Drawing I, and ART-1080 Visual Design I, or departmental approval: comparable skills.

ART-2170 Computer Graphic: 3D Animation

03 Semester Credits

Study 3D computer-based modeling, rendering, and animation. Emphasis on object construction for animation along with texture mapping, eight interactive lights, key frames, motion graph controls, NURBS and inverse kinematics. Video portfolio production output. May be repeated up to 12 credits; only 3 credits may be applied to degree requirements. New software options are available as course is repeated. Requires a minimum of an additional 15 hours of outside classroom work to complete art projects.

Lecture 01 hour. Laboratory 05 hours.

Prerequisite(s): ART-2160 Computer Graphic: 3D Modeling and Rendering, or departmental approval: comparable skills.

ART-2210 Printmaking I

03 Semester Credits

General introduction to various aspects of printmaking and graphic composition. Techniques may include relief printing (wood/linocut, monotype); silk screen, intaglio (etching, engraving, dry point, mezzotint, aquatint); lithography, calligraphy, monoprint. Some multi-color work. Requires a minimum of an additional 15 hours of outside classroom work to complete art projects.

Lecture 01 hour. Laboratory 05 hours.

Prerequisite(s): ART-1050 Drawing I, or departmental approval: comparable skills.

ART-2220 Printmaking II

03 Semester Credits

Emphasis on advanced techniques of intaglio relief, lithography silk screening, calligraphy and monoprints. May be repeated for up to 9 credits, 3 of which are applicable to degree requirements. Requires a minimum of an additional 15 hours of outside classroom work to complete art projects.

Lecture 01 hour. Laboratory 05 hours.

Prerequisite(s): ART-2210 Printmaking I, or departmental approval: comparable skills.

ART-2740 Internship

01-03 Semester Credits

Provides student with on-the-job application of skills learned in the liberal arts and specifically Art. Each internship based on individualized learning contract. Requirement for one credit is 180 hours of approved work per semester.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Internship: 180 clock hours of approved work per credit hour.

Prerequisite(s): Departmental approval: completion of 30 semester credits; completion of 15 semester credits at Cuyahoga Community College; 2.75 GPA; completion of 20 semester credits in liberal arts; completion of 9 semester credits in ART; two letters of recommendation from liberal arts faculty, one of which must be from area of placement.

ART-2800 Special Advanced Topics in Art

1-3 Semester Credits

ART-281S Special Advanced Laboratory Topics in Art

1-3 Semester Credits

Specialized two-hour lab per credit.

ART-281T Special Research Laboratory Topics in Art

1-3 Semester Credits

Specialized three-hour lab for credit.

ART-2820 Independent Advanced Study in Art

1-3 Semester Credits

Automotive Technology - AUTO

AUTO-1000 Automotive Maintenance and Consumer Issues

02 Semester Credits

Designed to teach automotive maintenance and introduce vehicle systems and components to automobile owner. Introduction to brake, electrical, suspension, fuel, and cooling systems and their terminology. Examine consumer issues concerning automotive maintenance and automotive repair facilities, and purchase of new and used vehicles. Minimal hands-on application.

Lecture 02 hours. Laboratory 00 hours. Prerequisite(s): None.

AUTO-1050 Numerical Applications in Automotive Service

03 Semester Credits

Use of numerical concepts and principles in interpreting, assessing, and determining need for automotive repair. Whole numbers, decimals, fractions, integers, graphs, ratios and percentages used to evaluate engine, electrical, chassis and HVAC system operation. Customary and metric conversions, reading automotive measuring devices and auto service repair order computations reviewed.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

AUTO-1100 Introduction to Automotive Service Procedures

02 Semester Credits

Designed to provide introduction to several basic service procedures required of person beginning work in automobile service center. Oil change, transmission service, tire service, thread repair, cooling system service, safety inspection, basic tune-up and battery testing will be demonstrated and practiced after introduction to shop safety and safe operation of automobile equipment and hand tools. May require visits to automotive service centers.

Lecture 01 hour. Laboratory 02 hours. Prerequisite(s): None.

AUTO-1300 Automotive Engines

03 Semester Credits

Operation of internal combustion gasoline engine including engine fundamentals and removal, lubrication and cooling system operation, and cylinder head and engine block diagnosis. Engine disassembly, measurements for correctness, proper assembly techniques and gasket and sealing information included. Modular courses AUTO-130A, AUTO-130B, and AUTO-130C together will also meet degree requirements for this course.

Lecture 01 hour. Laboratory 06 hours. Prerequisite(s): None

AUTO-130A Automotive Engines: Principles

01 Semester Credit

Operation of internal combustion gasoline engine. Theoretical design principles of engine construction and components. Associated lubrication and cooling systems, and fasteners and engine sealing are discussed.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): Departmental approval.

AUTO-130B Automotive Engines: Laboratory Competencies

01 Semester Credit

Internal combustion gasoline engine laboratory competencies are completed through engine removal and teardown, measurement, and reassembly of engine assembly. Special engine measurement devices are utilized.

Lecture 00 hour. Laboratory 03 hours.

Prerequisite(s): Departmental approval.

AUTO-130C Automotive Engines: Advanced Laboratory Competencies

01 Semester Credit

Internal combustion gasoline engine advanced laboratory competencies are completed by analysis of engine measurements, and diagnosis of engine condition and noise. Various methods of engine repair, engine repair of specific engines and specific engine repair techniques are covered.

Lecture 00 hour. Laboratory 03 hours.

Prerequisite(s): Departmental approval.

AUTO-1350 Manual Transmission and Drivetrain

02 Semester Credits

Theory and operation of manual transmissions, transaxles, clutches, drive shafts, drivetrain couplings, differentials, rear axles, axle shafts, and four-wheel drive componentry.

Laboratory skills emphasize diagnosis, troubleshooting and repair. Modular courses AUTO-135A and AUTO-135B together will also meet degree requirements for this course.

Lecture 01 hour. Laboratory 03 hours. Prerequisite(s): None.

AUTO-135A Manual Transmission and Drivetrain: Principles

01 Semester Credit

Theory and operation of manual transmissions, transaxles, clutches, drive shafts, drivetrain couplings, differentials, rear axles, axle shafts, and four-wheel drive componentry.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): Departmental approval.

AUTO-135B Manual Transmission and Drivetrain: Laboratory Competencies

01 Semester Credit

Laboratory competencies related to manual transmissions, transaxles, clutches, drive shafts, drivetrain couplings, differentials, rear axles, axle shafts, and four-wheel drive componentry. Skills emphasize diagnosis, troubleshooting and repair.

Lecture 00 hour. Laboratory 03 hours.

Prerequisite(s): Departmental approval.

AUTO-1400 Automotive Alignment, Steering and Suspension

03 Semester Credits

Theory and principles of automotive alignment geometry and automotive steering and suspension systems.

Laboratory competencies integrate diagnosis and repair of these systems through use of special tools and alignment equipment. Modular courses AUTO-140A, AUTO-140B, and AUTO-140C together will also meet degree requirements for this course.

Lecture 02 hours. Laboratory 03 hours. Prerequisite(s): None.

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AUTO-140A Automotive Alignment, Steering and Suspension: Principles

01 Semester Credit

Theory and principles of automotive two-wheel alignment geometry and automotive steering and suspension systems, including wheels and tires.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): Departmental approval.

AUTO-140B Automotive Alignment, Steering and Suspension: Advanced Principles

01 Semester Credit

Advanced theory and principles of automotive four-wheel alignment geometry and automotive steering and suspension systems. Focus on variable assist steering, four-wheel steering, electronic level control and electronic ride control systems.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): Departmental approval.

AUTO-140C Automotive Alignment, Steering and Suspension: Laboratory Competencies

01 Semester Credit

Laboratory competencies integrate diagnosis and repair of alignment, steering and suspension systems through use of special tools and alignment equipment.

Lecture 00 hour. Laboratory 03 hours.

Prerequisite(s): Departmental approval.

AUTO-1450 Automotive Braking Systems

03 Semester Credits

Designed to provide student with foundation in theory and operation of automotive braking systems. Includes hydraulic brake principles, machining operations, and troubleshooting and repair of disc and drum brake assemblies. Operation and diagnosis of anti-lock braking systems included. Modular courses AUTO-145A, AUTO-145B, and AUTO-145C together will also meet degree requirements for this course.

Lecture 02 hours. Laboratory 03 hours. Prerequisite(s): None.

AUTO-145A Automotive Braking Systems: Principles

01 Semester Credit

Designed to provide student with foundation in theory and operation of automotive braking systems including drum, disc and parking brake systems. Terminology explained and symptom diagnosis covered.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): Departmental approval.

AUTO-145B Automotive Braking Systems: Advanced Principles

01 Semester Credit

Designed to provide student with foundation in theory and operation of automotive braking power assist, anti-lock and traction control systems. Terminology explained and symptom diagnosis covered.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): Departmental approval.

AUTO-145C Automotive Braking Systems: Laboratory Competencies

01 Semester Credit

Designed to provide student with laboratory skills associated with automotive braking systems. Includes machining operations, troubleshooting and repair of disc and drum brake assemblies, and anti-lock braking system diagnosis.

Lecture 00 hour. Laboratory 03 hours.

Prerequisite(s): Departmental approval.

AUTO-1500 Automotive Electrical Fundamentals

02 Semester Credits

Fundamentals of electricity for automotive technicians. Electrical theory applied through construction of series, parallel and series-parallel circuits. Digital Volt Ohm Meter (DVOM) use in electrical diagnosing and testing of circuits covered, along with wire repair techniques. Emphasis on interpreting and using automotive electrical wiring schematics. Horn and wiper systems examined. Modular courses AUTO-150A and AUTO-150B together will also meet degree requirements for this course.

Lecture 01 hour. Laboratory 03 hours. Prerequisite(s): None.

AUTO-150A Automotive Electrical Fundamentals: Principles

01 Semester Credit

Fundamentals of electricity for automotive technicians. Magnetism, protection and control devices, connectors and terminals discussed. Emphasis on interpreting and using automotive electrical wiring schematics. Horn and wiper systems examined.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): Departmental approval.

AUTO-150B Automotive Electrical Fundamentals: Laboratory Competencies

01 Semester Credit

Laboratory competencies demonstrating electrical theory applied through construction of series, parallel and series-parallel circuits. Digital Volt Ohm Meter (DVOM) use in electrical diagnosing and testing of circuits covered, along with wire repair techniques. Horn and wiper system diagnosis examined.

Lecture 00 hour. Laboratory 03 hours.

Prerequisite(s): Departmental approval.

AUTO-1800 Special Topics in Automotive Technology

1-3 Semester Credits

AUTO-181S Special Laboratory Topics in Automotive Technology

1-3 Semester Credits

Specialized two-hour lab per credit.

AUTO-181T Special Laboratory Topics in Automotive Technology

1-3 Semester Credits

Specialized three-hour lab per credit.

AUTO-1820 Independent Study in Automotive Technology

1-3 Semester Credits

AUTO-1940 Automotive Field Experience I

01 Semester Credit

Provides student with automotive field experience needed to develop career skills through work experience in automotive service industry.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Field experience: 12 clock hours per week.

Prerequisite(s): Departmental approval: job site approval.

AUTO-1950 Automotive Field Experience II

01 Semester Credit

Provides student with automotive field experience needed to develop career skills through work experience in automotive service industry.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Field experience: 12 clock hours per week.

Prerequisite(s): Departmental approval: job site approval.

AUTO-1960 Automotive Field Experience III

01 Semester Credit

Provides student with automotive field experience needed to develop career skills through work experience in automotive service industry.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Field experience: 12 clock hours per week.

Prerequisite(s): Departmental approval: job site approval.

AUTO-2300 Automatic Transmissions

03 Semester Credits

Theory of operation of automotive transmissions and transaxles. Emphasis on hydraulic fundamentals, controls and planetary gear train theory. Maintenance, diagnosis, and overhaul procedures of transmissions are completed by student. Introduction to operation and diagnosis of electronic shift transmissions. Modular courses AUTO-230A, AUTO-230B, and AUTO-230C together will also meet degree requirements for this course.

Lecture 01 hour. Laboratory 06 hours.

Prerequisite(s): AUTO-1500 Automotive Electrical Fundamentals; or AUTO-150A, and AUTO-150B; or departmental approval: industry-related experience.

AUTO-230A Automatic Transmissions: Principles

01 Semester Credit

Theory of operation of automotive transmissions and transaxles. Emphasis on hydraulic fundamentals, controls and planetary gear train theory. Introduction to operation and diagnosis of electronic shift transmissions.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): AUTO-1500 Automotive Electrical Fundamentals; or AUTO-150A, and AUTO-150B; or departmental approval: industry-related experience.

AUTO-230B Automotive Transmissions: Laboratory Competencies

01 Semester Credits

Removal and reinstallation of automotive transmissions and transaxles. Emphasis on automatic transmission/transaxle rebuilding and overhauling. Use of special tools to insure component installation to specifications is reinforced.

Lecture 00 hours. Laboratory 03 hours.

Prerequisite(s): AUTO-1500 Automotive Electrical Fundamentals; or AUTO-150A, and AUTO-150B; or departmental approval: industry-related experience.

AUTO-230C Automatic Transmissions: Advanced Laboratory Competencies

01 Semester Credit

Laboratory skills related to troubleshooting and diagnosis of automotive transmissions and transaxles. Problem-based labs utilize road testing, testing equipment, and service information to troubleshoot transmission symptoms. Electronic shift transmissions explored.

Lecture 00 hours. Laboratory 03 hours.

Prerequisite(s): AUTO-1500 Automotive Electrical Fundamentals; or AUTO-150A, and AUTO-150B; or departmental approval: industry-related experience.

AUTO-2350 Automotive HVAC

02 Semester Credits

Theory, diagnosis and servicing procedures of automotive air conditioning systems. Includes heating systems and operation, diagnosis and repair of electric and vacuum components and controls, and service procedures for R-12 and R-134A refrigerants. Modular courses AUTO-235A and AUTO-235B together will also meet degree requirements for this course.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): AUTO-1500 Automotive Electrical Fundamentals; or AUTO-150A, and AUTO-150B; or departmental approval: industry-related experience.

AUTO-235A Automotive HVAC: Principles

01 Semester Credit

Theory behind operation, diagnosis, and servicing of automotive air conditioning systems. Includes operation of heating systems, and electric and vacuum components and controls. R-12 and R-134A refrigerants discussed.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): AUTO-1500 Automotive Electrical Fundamentals; or AUTO-150A, and AUTO-150B; or departmental approval: industry-related experience.

AUTO-235B Automotive HVAC: Laboratory Competencies

01 Semester Credit

Service procedures of automotive air conditioning systems. Includes diagnosis and repair of electric and vacuum components and controls, and service procedures for R-12 and R-134A refrigerants.

Lecture 00 hour. Laboratory 03 hours.

Prerequisite(s): AUTO-1500 Automotive Electrical Fundamentals; or AUTO-150A, and AUTO-150B; or departmental approval: industry-related experience.

AUTO-2400 Engine Performance

03 Semester Credits

Fundamentals of proper engine performance. Ignition, electrical, engine mechanical, and fuel and emission system principles of operation, related drivability symptoms, and proper testing to verify cause will be explored. DVOM, scan tool and special tools used throughout course. Emphasis on operational concepts and individual component testing. Modular courses AUTO-240A, AUTO-240B, and AUTO-240C together will also meet degree requirements for this course.

Lecture 01 hour. Laboratory 06 hours.

Prerequisite(s): AUTO-1500 Automotive Electrical Fundamentals; or AUTO-150A, and AUTO-150B; or departmental approval: industry-related experience.

AUTO-240A Engine Performance: Principles

01 Semester Credit

Fundamentals of proper engine performance. Ignition, electrical, engine mechanical, and fuel and emission system theory and principles of operation covered.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): AUTO-1500 Automotive Electrical Fundamentals; or AUTO-150A, and AUTO-150B; or departmental approval: industry-related experience.

AUTO-240B Engine Performance: Laboratory Competencies

01 Semester Credit

Laboratory competencies necessary for obtaining proper engine performance. Ignition, electrical, and engine mechanical systems explored by using proper diagnostic testing to verify cause of engine condition. Emphasis placed on individual component testing.

Lecture 00 hour. Laboratory 03 hours.

Prerequisite(s): AUTO-1500 Automotive Electrical Fundamentals; or AUTO-150A, and AUTO-150B; or departmental approval: industry-related experience.

AUTO-240C Engine Performance: Advanced Laboratory Competencies

01 Semester Credit

Laboratory competencies necessary for obtaining proper engine performance. Fuel and emission systems explored by using proper diagnostic testing to verify cause of engine condition. Emphasis on individual component testing.

Lecture 00 hour. Laboratory 03 hours.

Prerequisite(s): AUTO-1500 Automotive Electrical Fundamentals; or AUTO-150A, and AUTO-150B; or departmental approval: industry-related experience.

AUTO-2450 Automotive Electronic Engine Controls

03 Semester Credits

Operation and advanced diagnosis of modern automobile ignition, electrical, engine mechanical, and fuel and emission control systems which are computer controlled. Explore methods of analyzing and locating engine performance malfunctions using deductive methodology and diagnostic test equipment. Emphasis on OBD II software, in-depth scan tool usage, five gas analysis, and digital scope signal analysis. Modular courses AUTO-245A, AUTO-245B, and AUTO-245C together will also meet degree requirements for this course.

Lecture 01 hour. Laboratory 06 hours.

Prerequisite(s): AUTO-2400 Engine Performance; or AUTO-240A, and AUTO-240B, and AUTO-240C; or departmental approval: industry-related experience.

AUTO-245A Automotive Electronic Engine Controls: Principles

01 Semester Credit

Operation of modern automobile ignition, electrical, engine mechanical, and fuel and emission control systems which are computer controlled. Emphasis on OBD II software, in-depth scan tool usage, five-gas analysis, and digital scope signal analysis.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): AUTO-2400 Engine Performance; or AUTO-240A, and AUTO-240B, and AUTO-240C; or departmental approval: industry-related experience.

AUTO-245B Automotive Electronic Engine Controls: Laboratory Competencies

01 Semester Credit

Advanced diagnosis of modern automobile ignition, electrical, engine mechanical, and fuel and emission control systems which are computer controlled. Diagnostic emphasis on using OBD II software, scan tools, five-gas analysis, and digital scope signals.

Lecture 00 hour. Laboratory 03 hours.

Prerequisite(s): AUTO-2400 Engine Performance; or AUTO-240A, and AUTO-240B, and AUTO-240C; or departmental approval: industry-related experience.

AUTO-245C Automotive Electronic Engine Controls: Advanced Laboratory Competencies

01 Semester Credit

Advanced diagnosis of modern automobile ignition, electrical, engine mechanical, and fuel and emission control systems which are computer controlled. Analyze and locate engine performance malfunctions using deductive methodology and diagnostic test equipment. Problem-based learning utilizes vehicles with drivability symptoms.

Lecture 00 hour. Laboratory 03 hours.

Prerequisite(s): AUTO-2400 Engine Performance; or AUTO-240A, and AUTO-240B, and AUTO-240C; or departmental approval: industry-related experience.

AUTO-2470 Automotive Electrical Systems

02 Semester Credits

Integrates operational principles and diagnostic skills needed to repair various vehicle electrical systems utilizing electrical concepts and schematics. Charging and starting systems, including interrelated security systems, primary ignition, supplemental restraint (SRS) and lighting systems, are explained and analyzed. Laboratory practice provides student applied knowledge for troubleshooting these systems. Modular courses AUTO-247A and AUTO-247B together will also meet degree requirements for this course.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): AUTO-1500 Automotive Electrical Fundamentals; or AUTO-150A, and AUTO-150B; or departmental approval: industry experience.

AUTO-247A Automotive Electrical Systems: Principles

01 Semester Credit

Operational principles of various vehicle electrical systems utilizing electrical concepts and schematics. Charging and starting systems, including interrelated security systems, primary ignition, supplemental restraint (SRS), and lighting systems are explained and analyzed.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): AUTO-1500 Automotive Electrical Fundamentals; or AUTO-150A, and AUTO-150B; or departmental approval: industry experience.

AUTO-247B Automotive Electrical Systems: Laboratory Competencies

01 Semester Credit

Laboratory competencies develop diagnostic skills needed to repair various vehicle electrical systems utilizing electrical concepts and schematics. Laboratory practice provides student applied knowledge for troubleshooting charging and starting systems, including interrelated security systems, primary ignition, supplemental restraint (SRS), and lighting systems.

Lecture 00 hour. Laboratory 03 hours.

Prerequisite(s): AUTO-1500 Automotive Electrical Fundamentals; or AUTO-150A, and AUTO-150B; or departmental approval: industry experience.

AUTO-2500 Automotive Electrical Diagnosis

02 Semester Credits

Problem-based learning to develop diagnostic skills needed to repair various automotive electrical systems and accessories. Instrumentation panels, radio and sound systems, heating and air-conditioning electronic controls, power windows, power seats, power door locks, keyless entry, cruise control, cooling fans, electronic steering/suspension, and anti-lock braking are some automotive electrical circuits examined. Body computer and multiplexed circuits introduced and explained. Laboratory practice focuses on techniques for diagnosing and troubleshooting any automotive electrical circuit. Modular courses AUTO-250A and AUTO-250B together will also meet degree requirements for this course.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): AUTO-2470 Automotive Electrical Systems; or AUTO-247A, and AUTO-247B; or departmental approval: industry-related experience.

AUTO-250A Automotive Electrical Diagnosis: Principles

01 Semester Credit

Principles of developing an electrical troubleshooting strategy. Instrumentation panels, radio and sound systems, heating and air-conditioning electronic controls, power windows, power seats, power door locks, keyless entry, cruise control, cooling fans, electronic steering/suspension, and anti-lock braking are some of the automotive electrical circuits examined. Body computers and multiplexed circuits are introduced and explained.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): AUTO-2470 Automotive Electrical Systems; or AUTO-247A, and AUTO-247B; or departmental approval: industry-related experience.

AUTO-250B Automotive Electrical Diagnosis: Laboratory Competencies

01 Semester Credit

Laboratory competencies use problem-based learning to develop diagnostic skills needed to repair instrumentation panels, radio and sound systems, heating and air-conditioning electronic controls, power windows, power seats, power door locks, keyless entry, cruise control, cooling fans, electronic steering/suspension, and anti-lock braking. Laboratory practice focuses on techniques for diagnosing and troubleshooting any automotive electrical circuit.

Lecture 00 hour. Laboratory 03 hours.

Prerequisite(s): AUTO-2470 Automotive Electrical Systems; or AUTO-247A, and AUTO-247B; or departmental approval: industry-related experience.

AUTO-2700 Automotive Service Operations

02 Semester Credits

Staffing and personnel selection, customer relations, consumer laws, expense control, repair facility site selection, hiring/firing legal issues, advertising and other business concerns dealing with automotive repair facility are examined. Case study will prepare students for day-to-day activities required of owner/supervisor of an automotive repair facility.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): BADM-1020 Introduction to Business, or BADM-1300 Small Business Management, or BADM-2200 Human Relations in Business, or BADM-2330 Human Resource Management, or departmental approval.

AUTO-2800 Special Advanced Topics in Automotive Technology

1-3 Semester Credits

AUTO-281S Special Advanced Laboratory Topics in Automotive Technology

1-3 Semester Credits

Specialized two-hour lab per credit.

AUTO-281T Special Advanced Laboratory Topics in Automotive Technology

1-3 Semester Credits

Specialized three-hour lab for credit.

AUTO-2820 Independent Advanced Study in Automotive Technology

1-3 Semester Credits

AUTO-2940 Automotive Field Experience IV

01 Semester Credit

Provides student with automotive field experience needed to develop career skills through work experience in automotive service industry.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Field experience: 12 clock hours per week.

Prerequisite(s): Departmental approval: job site approval.

AUTO-2950 Automotive Field Experience V

01 Semester Credit

Provides student with automotive field experience needed to develop career skills through work experience in automotive service industry.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Field experience: 12 clock hours per week.

Prerequisite(s): Departmental approval: job site approval.

AUTO-2990 Automotive Professional Study

01 Semester Credit

Capstone course in automotive technology. Provides students with opportunities to apply technical, oral, and written skills; to prepare resumes and/or portfolios and develop interview skills; to study history and trends in automotive technology; or to discuss ethical and global issues in automotive technology. Student will choose an area compatible with their interest and background, and facilitated by instructor, prepare a report, presentation, resume, or a study.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): Departmental approval.

Course Descriptions

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Biology – BIO

BIO-1040 The Cell and DNA

03 Semester Credits

Designed for non-science majors. Considers cell structure, function, and metabolism, cell division, DNA structure and function, Mendelian and molecular genetics. Scientific method and reasoning emphasized. To fulfill laboratory science requirements, students should enroll in the related laboratory course.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

BIO-104L The Cell and DNA Laboratory

01 Semester Credit

Laboratory course examines scientific method, cell structure and function, cell division, DNA structure and function, and Mendelian and molecular genetics. Includes microscope work, models, role play and various experiments designed to illustrate concepts covered in the lecture course.

Lecture 00 hours. Laboratory 03 hours.

Prerequisite(s): Concurrent enrollment in BIO-1040 The Cell and DNA is strongly recommended.

BIO-1050 Human Biology

03 Semester Credits

Designed for non-science majors. Considers concept of homeostasis of the human body. Basic structure and function of body systems and diseases of these systems studied. To fulfill laboratory science requirements, students should enroll in related laboratory course.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

BIO-105L Human Biology Laboratory

01 Semester Credit

Laboratory course examines structure and function of human body systems. Includes microscope work, models, computer applications, and animal dissection.

Lecture 00 hours. Laboratory 03 hours.

Prerequisite(s): Concurrent enrollment in BIO-1050 Human Biology is strongly recommended.

BIO-1060 Environment, Ecology and Evolution

03 Semester Credits

Designed for non-science majors. Surveys diversity of life. Considers chemical cycles, ecology, the environment, population genetics, evolution and genetic basis of evolution. Emphasis on the scientific method and its application to environmental issues. To fulfill laboratory science requirements, students should enroll in related laboratory course.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

BIO-106L Environment, Ecology and Evolution Laboratory

01 Semester Credit

Laboratory examines diversity of life, chemical cycles, ecology, environment, population genetics, evolution and genetic basis of evolution. Includes microscope work, models, role play, and various experiments designed to apply the scientific method and reasoning to the topics considered.

Lecture 00 hours. Laboratory 03 hours.

Prerequisite(s): Concurrent enrollment in BIO-1060

Environment, Ecology and Evolution is strongly recommended

BIO-1100 Introduction to Biological Chemistry

03 Semester Credits

Basic principles of inorganic chemistry, organic chemistry and biochemistry necessary for study of human physiology. Physiological applications of the chemical processes of cellular transport, communication and metabolism emphasized. Laboratory includes use of metric system, basic chemistry techniques and physiological applications.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): Eligibility for MATH-1060 Survey of Mathematics or higher.

BIO-1200 Oral Structure and Development

03 Semester Credits

Introduction to dental terminology, form and function of teeth and related structures. Development, histology, morphology and pathology of permanent and deciduous dentitions and soft tissue structures. Helps students identify normal structures and common abnormalities within the oral cavity, and to communicate effectively with other members of dental team.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to Dental Assisting Program.

BIO-1210 General and Oral Histopathology (Dental)

04 Semester Credits

General study of cells and tissues of human with special emphasis placed on development of face and teeth. General principles of pathology included, such as inflammation, neoplasia, metabolic, endocrine, and other systemic diseases affecting the general and oral health of the patient.

Lecture 03 hours. Laboratory 03 hours.

Prerequisite(s): Departmental approval: admission to Dental Hygiene Program.

BIO-1210 General and Oral Histopathology (DMS or Radiography)

04 Semester Credits

Basic understanding of body systems, structures and organs based on functions and relationships to diagnostic radiographic examinations.

Lecture 03 hours. Laboratory 03 hours.

Other Required Hours: 00.

Prerequisite(s): MATH-1141 Applied Algebra and Mathematical Reasoning, or concurrent enrollment; and departmental approval: admission to Diagnostic Medical Sonography or Radiography program.

BIO-1220 Anatomy and Physiology for Radiographers

03 Semester Credits

Basic understanding of body systems, structures and organs based on functions and relationships to diagnostic radiographic examinations.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): Departmental approval: admission to Radiography or Diagnostic Medical Sonography programs.

BIO-1221 Anatomy and Physiology for Diagnostic Medical Imaging

04 Semester Credits

Basic understanding of body systems, structures and organs based on functions and relationships to diagnostic medical imaging examinations.

Lecture 03 hours. Laboratory 03 hours.

Prerequisite(s): MA-1020 Medical Terminology I or concurrent enrollment.

BIO-1230 Anatomy and Physiology of the Eye

04 Semester Credits

Detailed examination of the anatomy and physiology of the eye. Emphasis on eye terminology, structure, function, movement, disorders, diseases, lens physics, and visual testing/analysis. Study of eye model and preserved eye dissection.

Lecture 03 hours. Laboratory 03 hours.

Prerequisite(s): Departmental approval: admission to Optical Technology Program.

BIO-1300 Horticultural Botany

03 Semester Credits

[This course is crosslisted as PST-1300. Credit can only be earned once for either course.]

Plant terminology, taxonomy, histology, anatomy, morphology, and physiology examined. Emphasis on horticultural practices, plant growth principles, and cultural requirements for plant growth. (Course may not be transferable. Check with your receiving institution.)

Lecture 02 hours. Laboratory 03 hours. Prerequisite(s): None.

BIO-1410 Anatomy and Physiology of Domestic Animals I

04 Semester Credits

Explores the comparative anatomy and physiology of the canine, feline, equine, bovine, ovine, and porcine species. Focuses on cellular biology, tissues and membranes, the integumentary, skeletal, muscular, nervous, endocrine, and circulatory systems and emphasizes species variations.

Laboratory includes preserved and fresh specimens, models, microscopic observations, and audio/visual aids

Lecture 03 hours. Laboratory 02 hours.

Prerequisite(s): BIO-1100 Introduction to Biological Chemistry, or concurrent enrollment.

BIO-1420 Anatomy and Physiology of Domestic Animals II

03 Semester Credits

Explores the comparative anatomy and physiology of the canine, feline, equine, bovine, ovine, and porcine species. Focuses on lymphatic, digestive, respiratory, urinary and reproductive systems. Immunology, pregnancy, lactation and genetics considered. Laboratory includes preserved and fresh specimens, models, microscopic observations, and audio/visual aids.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): BIO-1410 Anatomy and Physiology of Domestic Animals I.

BIO-1500 Principles of Biology I

04 Semester Credits

Designed for science majors. Considers molecular and cellular basis of life, energy transformation and metabolism, cellular reproduction, genetics, evolution and the origin of life, and introduction to biological organization.

Lecture 03 hours. Laboratory 03 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

BIO-1510 Principles of Biology II

04 Semester Credits

Designed for science majors. Surveys biological diversity, examines plant and animal structure, function and development, considers population, community, and ecosystem levels of organization and animal behavior.

Lecture 03 hours. Laboratory 03 hours.

Prerequisite(s): BIO-1500 Principles of Biology I, or departmental approval: equivalent knowledge or skills.

BIO-1800 Special Topics in Biology

1-3 Semester Credits

BIO-181S Special Laboratory Topics in Biology

1-3 Semester Credits

Specialized two-hour lab per credit.

BIO-181T Special Laboratory Topics in Biology

1-3 Semester Credits

Specialized three-hour lab per credit.

BIO-1820 Independent Research in Biology

1-3 Semester Credits

BIO-182S Independent Laboratory Research in Biology

1-3 Semester Credits

Independent two-hour lab per credit.

BIO-182T Independent Laboratory Research in Biology

1-3 Semester Credits

Independent three-hour lab per credit.

BIO-2010 Field Botany

03 Semester Credits

Study of plant kingdom; emphasis on collection, identification, classification and ecology of local flora. Field trips required.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): Completion of any 1000-level science course.

BIO-2050 Field Zoology

03 Semester Credits

Study of animal kingdom, emphasis on location, identification, classification and ecology of local fauna. Field trips required.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): Completion of any 1000-level science course.

BIO-2060 Principles of Genetics

03 Semester Credits

Study of principles of genetics with emphasis on human inheritance. Classical Mendelian genetics, the molecular basis of inheritance, current applications of genetic techniques, and the human genome project emphasized. Genetic basis of immunology and cancer explored.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): BIO-1040 The Cell and DNA, or BIO-2340 Anatomy and Physiology II, or BIO-1420 Anatomy and Physiology of Domestic Animals II, or BIO-1500 Principles of Biology I.

BIO-2070 Techniques in Molecular Genetics

03 Semester Credits

Advanced study of structure and function of DNA with emphasis on laboratory techniques used in molecular biology. Laboratory practices and applications of sterile techniques, gel electrophoresis, DNA isolation, RFLP analysis, plasmids, and recombinant DNA. Protein structure and methods of protein purification explored.

Lecture 01 hour. Laboratory 04 hours.

Prerequisite(s): BIO-1040 The Cell and DNA, or BIO-2340 Anatomy and Physiology II, or BIO-1500 Principles of Biology I.

BIO-2100 Biology of Aging

03 Semester Credits

Multidisciplinary approach to biological theories of aging with emphasis on humans. Fundamental concepts of cell biology and physiology will be used to study extrinsic and intrinsic factors in aging, the effects of aging on body systems, senescence, genetics, life expectancy and life span, and improving survivorship.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): BIO-1040 The Cell and DNA, or BIO-1050 Human Biology, or BIO-1500 Principles of Biology I, or BIO-2330 Anatomy and Physiology I.

BIO-2150 Environmental Science

03 Semester Credits

Fundamental ecological concepts and their application to environmental issues emphasizing the impact of human activity on the biosphere. Topics include natural resources, air, water and land pollution, energy, and populations.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): BIO-1060 Environment, Ecology and Evolution; or BIO-1510 Principles of Biology II.

BIO-2200 Radiobiology

02 Semester Credits

Theories of the biological effects of ionizing radiation, quantities and units of measurement, proper protective measures for both patient and personnel, effective dose equivalents, radiation absorption processes and shielding, and exposure monitoring devices.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): BIO-1221 Anatomy and Physiology for Diagnostic Medical Imaging, and departmental approval: admission to radiography program.

BIO-2330 Anatomy and Physiology I

04 Semester Credits

[formerly BIO-1430]

Study of structure and function of human body. Focus on fundamental concepts of cellular structure, tissues, organs, and systems. Considers structure, function, and terminology of skeletal, muscular, cardiovascular, lymphatic, digestive, respiratory, and urinary systems. Laboratory experiences include demonstrations, microscopic observations, anatomic models, and videos related to topics. It is strongly recommended that the BIO-1100 prerequisite be completed prior to taking course.

Lecture 03 hours. Laboratory 03 hours.

Prerequisite(s): BIO-1100 Introduction to Biological Chemistry, or concurrent enrollment; or CHEM-1020 Introduction to Organic Chemistry and Biochemistry, or concurrent enrollment; or departmental approval: comparable knowledge or skills.

BIO-2340 Anatomy and Physiology II

04 Semester Credits

[formerly BIO-1440]

Study of structure and function of the human body. Focus on structure, functions, and terminology of the nervous, integumentary, endocrine, and reproductive systems. Immunology, cellular division, embryological and fetal development, classical genetics and genetic technology considered. Laboratory experiences include demonstrations, microscopic observations, anatomic models, and videos related to topics.

Lecture 03 hours. Laboratory 03 hours.

Prerequisite(s): BIO-2330 Anatomy and Physiology I, or departmental approval: comparable knowledge or skills.

BIO-2500 Microbiology

04 Semester Credits

Survey of microorganisms in terms of physiology, biochemistry, genetics, and diversity with emphasis placed on prokaryotes and eukaryotes causing human diseases. Methods of their control including physical, mechanical, chemical, chemotherapeutic, and role of the immune system discussed.

Lecture 03 hours. Laboratory 03 hours.

Prerequisite(s): BIO-1410 Anatomy and Physiology of Domestic Animals I; or BIO-2330 Anatomy and Physiology I; or BIO-1500 Principles of Biology I; or BIO-1050 Human Biology and BIO-105L Human Biology Lab and BIO-1100 Introduction to Biological Chemistry; or departmental approval: comparable knowledge or skills.

BIO-2520 Oral Microbiology and Immunology

03 Semester Credits

Intended for students in the field of dental hygiene. Provides up-to-date survey of microbiology with emphasis on microbial and immunologic diseases of dental origin or diseases with secondary oral manifestations. Ecology of oral flora, dental plaque and calculus, caries and cariology, periodontal disease, control and prevention of periodontal disease, periapical infections, and medical infections of concern to dental professional. Sterilization and asepsis with currently accepted antimicrobials and antibiotics as well as diagnostic microbiology and immunology.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): BIO-1210, General and Oral Histopathology.

Course Descriptions

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BIO-2600 Pathophysiology

03 Semester Credits

General mechanisms of disease processes and health problems including inflammation, degeneration, immunity, congenital, hereditary, neoplasia as well as diseases caused by deficiencies or excesses. The most commonly occurring diseases of body systems are surveyed.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): BIO-2330 Anatomy and Physiology II.

BIO-2800 Special Advanced Topics in Biology

1-3 Semester Credits

BIO-281S Special Advanced Laboratory Topics in Biology

1-3 Semester Credits

Specialized two-hour lab per credit.

BIO-281T Special Advanced Laboratory Topics in Biology

1-3 Semester Credits

Specialized three-hour lab per credit.

BIO-2820 Independent Advanced Study/Research in Biology

1-3 Semester Credits

BIO-282S Independent Advanced Laboratory Research in Biology

1-3 Semester Credits

Independent two-hour lab per credit.

BIO-282T Independent Advanced Laboratory Research in Biology

1-3 Semester Credits

Independent three-hour lab per credit.

Business Administration - BADM

BADM-1000 Business Language Skills

02 Semester Credits

formerly OADM-1000]

Fundamentals of business language with emphasis on grammatical correctness, acceptable usage, spelling, vocabulary, punctuation, capitalization, correct number usage, and proofreading. Limited writing involves choice of correct word usage, effective sentence structure, and paragraph construction.

Lecture 02 hours. Laboratory 00 hours. Prerequisite(s): None.

BADM-1020 Introduction to Business

03 Semester Credits

Comprehensive survey of American business system with emphasis on basic business vocabulary. Examination of principles and careers related to economics, management, marketing, accounting, finance, and general business.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

BADM-1120 Principles of Management

04 Semester Credits

Introduction to management principles, concepts, and skills employed in operation of a business organization. Emphasis on functions of management including planning, organizing, staffing, leading, controlling, and decision-making.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): BADM-1020 Introduction to Business, or ACCT-1310 Financial Accounting, or departmental approval: comparable knowledge or skills.

BADM-1210 Labor-Management Relations

03 Semester Credits

Historical, legal, and structural environments which influence management-labor relations. Rights and responsibilities of unions and management; negotiation and administration of labor agreement; results of labor relations process and collective bargaining issues. Application of labor relations process to public sector and nontraditional labor relations, such as health care professionals and athletes.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

BADM-1300 Small Business Management

04 Semester Credits

Development of entrepreneurial and managerial skills needed by those who may choose to work in small business as either founders, or managers or both.

Lecture 04 hours. Laboratory 00 hours. Prerequisite(s): None.

BADM-1800 Special Topics in Business Administration

1-3 Semester Credits

BADM-1820 Independent Study in Business Administration

1-3 Semester Credits

Course Descriptions

Fall 2001 – Summer 2003 Catalog

BADM-2010 Business Communications

03 Semester Credits

[formerly OADM-2010]

Study of oral, written and electronic business communication theory. Includes business correspondence writing, job preparation, research techniques, and formal and informal report preparation.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ENG-1010 College Composition I or concurrent enrollment.

BADM-2110 Production/Operations Management

03 Semester Credits

Overview of manufacturing and service operations covering such topics as: flow, bottleneck, balance, quality, workplace contribution, planning, materials requirement planning, inventory management procurement, logistics, floor shop control, just-in-time (JIT), capacity changes, technology and design, vertical integration, and operation strategy.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: 13 semester credits in business administration or comparable knowledge or skills.

BADM-2150 Business Law

04 Semester Credits

Study of legal process as it relates to society, government, business and the individual; the law as it relates to legal system, contracts, sales, agency, business organizations, debtor-creditor relations, and governmental regulation of business.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): BADM-1020 Introduction to Business, or BADM-1120 Principles of Management, or departmental approval: comparable knowledge or skills.

BADM-2160 Introduction to Purchasing

03 Semester Credits

Analysis of purchasing's roll in an industrial organization. Description of quality, specifications and standardization, supplier selection, international sourcing, pricing principles, types of contracts, negotiation techniques, make or buy, computer based system; EDI, capital equipment, services and value analysis, and legal and ethical aspects of purchasing.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): BADM-1020 Introduction to Business, or concurrent enrollment; or departmental approval: comparable knowledge or skills.

BADM-2180 Purchasing Management

03 Semester Credits

Capstone course in purchasing management program. Focus on purchasing management process, including functions of planning, organizing, directing, motivating, and controlling the work and purchasing staff to help achieve organizational objectives. Purchasing systems and documentation discussed.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): BADM-2160 Introduction to Purchasing, or departmental approval: comparable knowledge or skills.

BADM-2200 Human Relations in Business

03 Semester Credits

Interpersonal relationships in the work environment. Includes communication and group processes. Motivational concepts explored. Focuses on development of interpersonal skills.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

BADM-2210 Quality Management

03 Semester Credits

Explores quality management concepts and approaches used by organizations today. Nominally focused and comprehensive system programs introduced. Case studies, field trips, speakers.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

BADM-2230 Value Analysis

03 Semester Credits

Focuses on system which reduces cost of materials and services. Techniques for analyzing formal and informal programs, start-up operations, training and suppliers.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): BADM-2160 Introduction to Purchasing, or departmental approval: comparable knowledge or skills.

BADM-2240 Negotiations

03 Semester Credits

Principles, techniques, and skills needed in interpersonal, buyer-seller, transportation, and labor management negotiations.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

BADM-2300 Principles of Freight Management

03 Semester Credits

Traffic Manager's responsibility operating within an industrial/commercial company. Includes freight loss and damage claims, handling of hazardous materials regulations, import/export, and just-in-time concepts. Relationship of industrial traffic management function to operating units of company, including inventory control, purchasing warehousing, and information management.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): BADM-2160 Introduction to Purchasing, or departmental approval: comparable knowledge or skills.

BADM-2330 Human Resource Management

03 Semester Credits

Management of personnel function. Recruitment, staffing, training, development, compensation and evaluation. Employment practices including legal and ethical issues.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

BADM-2410 Office Management

03 Semester Credits

Basic principles of office organization and management. Emphasis on problem-solving and communications necessary to administer office functions.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

BADM-2420 CPS Review: Management, Finance and Business Law

03 Semester Credits

Certified Professional Secretary Review. Designed to strengthen and increase participant's knowledge in tasks, skills and responsibilities of administrative secretary. Comprehensive review of behavioral science in business, human resource management, organizations, management, economics, accounting, and business law.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

BADM-2450 New Business Development

05 Semester Credits

Capstone course in Small Business Management. Complete business plan. Reflects generally accepted practice. Designed for student who wants to start a business.

Lecture 03 hours. Laboratory 04 hours.

Prerequisite(s): BADM-1300 Small Business Management, or departmental approval: comparable knowledge or skills.

BADM-2470 Marketing Techniques for Small Business

03 Semester Credits

Capstone course in Small Business Management. Marketing research and other marketing activities; market segmentation, product development, advertising, sales promotion, personal selling, and pricing.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): BADM-1300 Small Business Management, or MARK-2010 Principles of Marketing, or departmental approval: comparable knowledge or skills.

BADM-2500 Strategic Management

03 Semester Credits

Capstone course in Business Management. Comprehensive analytical/decision-making experience. Focus on realistic business situations.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): BADM-1120 Principles of Management; and departmental approval: 12 credit hours of business administration, and 12 credit hours of marketing and/or accounting.

BADM-2800 Special Advanced Topics in Business Administration

1-3 Semester Credits

BADM-2820 Independent Advanced Study in Business Administration

1-3 Semester Credits

BADM-2830 Cooperative Field Experience

1-3 Semester Credits

BADM-2990 Office Procedures and Practices

03 Semester Credits

[formerly OADM-2990]

Capstone course for Office Operations Management concentration, and Information Application Specialist concentration. Designed to update knowledge of rapidly changing office environment and preparation for initial employment as well as promotion to supervisory and administrative positions.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): Departmental approval: sophomore standing.

Chemistry - CHEM

CHEM-1010 Introduction to Inorganic Chemistry

04 Semester Credits

Introduction to atomic structure and bonding as basis for understanding valence, formulas, compounds and chemical reactions. Measurement, stoichiometry, states of matter, solutions, ionization, equilibria, acids, bases and pH, and applications in daily life.

Lecture 03 hours. Laboratory 03 hours.

Prerequisite(s): One year of high school algebra or equivalent.

CHEM-1020 Introduction to Organic Chemistry and Biochemistry

04 Semester Credits

Structure and properties of representative carbon compounds and applications to everyday life. Nature and metabolism of biochemical compounds and relationship of nucleic acids to protein synthesis.

Lecture 03 hours. Laboratory 03 hours.

Prerequisite(s): CHEM-1010 Introduction to Inorganic Chemistry, or departmental approval: equivalent knowledge or skills.

CHEM-1300 General Chemistry I

04 Semester Credits

Study of fundamental principles of chemistry emphasizing atomic theory and structure, chemical bonding, thermochemistry, solutions, stoichiometry, and state of matter. To fulfill laboratory science requirement, students should enroll in related laboratory course.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for MATH-1200 Intermediate Algebra; or CHEM-1010 Introduction to Inorganic Chemistry; or departmental approval: equivalent knowledge or skills.

CHEM-130H Honors General Chemistry I

05 Semester Credits

Study of fundamental principles of chemistry emphasizing atomic theory, periodic trends, structure and bonding, chemical reaction and stoichiometry, energy, and the states of matter. Perform laboratory experiments designed to demonstrate chemical concepts and support theoretical phenomena. The honors General Chemistry I course combines the lecture and laboratory into one course.

Lecture 04 hours. Laboratory 03 hours.

Prerequisite(s): Eligibility for MATH-1580, Precalculus; and CHEM-1010 Introduction to Inorganic Chemistry; and ENG-101H Honors College Composition I; or departmental approval: equivalent knowledge or skills.

CHEM-130L General Chemistry Laboratory I

01 Semester Credits

Basic laboratory experiments which correlate with chemical concepts, principles and processes of General Chemistry I. Emphasis on techniques and procedures.

Lecture 00 hours. Laboratory 03 hours.

Prerequisite(s): CHEM-1300 General Chemistry I, or concurrent enrollment; or departmental approval: equivalent knowledge or skills.

CHEM-1310 General Chemistry II

04 Semester Credits

Emphasis on kinetics, equilibrium concepts, electrochemistry, nuclear chemistry, thermodynamics, coordination chemistry and organic chemistry. To fulfill laboratory science requirement, students should enroll in related laboratory course.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): CHEM-1300 General Chemistry I, or departmental approval: equivalent knowledge or skills.

CHEM-131L General Chemistry Laboratory II

01 Semester Credit

Basic laboratory experiments which correlate with chemical concepts, principles and processes of General Chemistry II. Emphasis on technique and procedures.

Lecture 00 hours. Laboratory 03 hours.

Prerequisite(s): CHEM-130L General Chemistry Laboratory I; and CHEM-1310 General Chemistry II, or concurrent enrollment; or departmental approval: equivalent knowledge or skills.

CHEM-1800 Special Topics in Chemistry

1-3 Semester Credits

CHEM-181S Special Laboratory Topics in Chemistry

1-3 Semester Credits

Specialized two-hour lab per credit.

CHEM-181T Special Laboratory Topics in Chemistry

1-3 Semester Credits

Specialized three-hour lab per credit.

CHEM-1820 Independent Research in Chemistry

1-3 Semester Credits

CHEM-182S Independent Laboratory Research in Chemistry

1-3 Semester Credits

Independent two-hour lab per credit.

CHEM-182T Independent Laboratory Research in Chemistry

1-3 Semester Credits

Independent three-hour lab per credit.

CHEM-2300 Organic Chemistry I

05 Semester Credits

Functional group chemistry of aliphatic compounds covering nomenclature, structural- reactivity, and synthetic reactions. Theoretical concepts, structural bonding, stereochemistry and reaction mechanisms emphasized. Use of various spectrometric techniques for identification of compounds introduced.

Lecture 03 hours. Laboratory 06 hours.

Prerequisite(s): CHEM-1310 General Chemistry II, and CHEM-131L General Chemistry Laboratory II; or departmental approval: equivalent knowledge or skills.

CHEM-2310 Organic Chemistry II

05 Semester Credits

Continuation of Organic Chemistry I. Common functional groups with emphasis on aromatic and carbonyl containing molecules, and selected topics such as heterocyclic compounds, macromolecules, and biomolecules introduced.

Lecture 03 hours. Laboratory 06 hours.

Prerequisite(s): CHEM-2300 Organic Chemistry I.

CHEM-2400 Quantitative Analysis

04 Semester Credits

Study of chemical stoichiometry, homogeneous and heterogeneous equilibria, and theory and techniques of gravimetric, volumetric, spectrometric, and electrochemical methods of quantitative analytical chemistry.

Lecture 02 hours. Laboratory 06 hours.

Prerequisite(s): CHEM-1310 General Chemistry II, and CHEM-131L General Chemistry Laboratory II.

CHEM-2800 Special Advanced Topics in Chemistry

1-3 Semester Credits

CHEM-281S Special Advanced Laboratory Topics in Chemistry

1-3 Semester Credits

Specialized two-hour lab per credit.

CHEM-281T Special Advanced Laboratory Topics in Chemistry

1-3 Semester Credits

Specialized three-hour lab per credit.

CHEM-2820 Independent Advanced Research in Chemistry

1-3 Semester Credits

CHEM-282S Independent Advanced Laboratory Research in Chemistry

1-3 Semester Credits

Independent two-hour lab per credit.

CHEM-282T Independent Advanced Laboratory Research in Chemistry

1-3 Semester Credits

Independent three-hour lab per credit.

Course Descriptions

Fall 2001 – Summer 2003 Catalog

Chinese – CHIN

CHIN-1010 Beginning Chinese Language and Culture I 04 Semester Credits

Introduction to standard spoken Chinese (Mandarin) through listening, speaking and using Chinese software on computer. Emphasis on becoming familiar with four tones of Chinese language.

Lecture 03 hours. Laboratory 02 hours. Prerequisite(s): None.

CHIN-1020 Beginning Chinese Language and Culture II 04 Semester Credits

Continued study of standard Chinese with expansion of vocabulary. Practice in conversation on given subject and transition from speaking to reading.

Lecture 03 hours. Laboratory 02 hours.

Prerequisite(s): CHIN-1010 Beginning Chinese Language and Culture I, or departmental approval.

CHIN-2800 Special Advanced Topics in Chinese 1-3 Semester Credits

CHIN-281S Special Advanced Laboratory Topics in Chinese

1-3 Semester Credits

Specialized two-hour lab per credit.

Commercial Art and Design - CART

CART-1020 Macintosh Basics

01 Semester Credit

[This course is crosslisted as GCMT-1020. Credit can only be earned once for either course.]

Introduction to Macintosh computer as a tool for graphics and photographic community. Provides experiences with unique characteristics of Macintosh and its operating system. Explores hardware, peripherals, and issues unique to digital publishing environments.

Lecture 01 hour. Laboratory 00 hours. Prerequisite(s): None.

CART-1050 Introduction to Commercial Art and Graphic Design

02 Semester Credits

Design structure, tools and techniques used in commercial art, graphic design and illustration professions. Emphasis on basic studio skills, materials, processes and design concepts.

Lecture 01 hour. Laboratory 02 hours. Prerequisite(s): None.

CART-1060 History and Trends in Commercial Art and Design

03 Semester Credits

Comprehensive survey course of historical and cultural events, technical innovations, art and design movements related to advertising, graphic design and illustration from 19th century through present. Emphasis on awareness of past in influencing future trends in the field.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

CART-1300 Typography and Layout

02 Semester Credits

Development, terminology, letterform, classification, selection and specification of typefaces. Emphasis on aesthetic and communicative aspects of typography.

Introduction to techniques used to indicate type and images.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): CART-1050 Introduction to Commercial Art and Graphic Design, or concurrent enrollment; or GCMT-1020 Macintosh Basics (non-commercial art student only); or departmental approval: comparable knowledge or skills.

CART-1310 Graphic Design Drawing

01 Semester Credit

Commercial drawing for advertising, graphic design and illustration. Emphasis on graphic thinking, stylization, use of reference, and use of selected, purposeful and quality line. Students in degree program must take related laboratory course.

Lecture 01 hour. Laboratory 00 hours. Prerequisite(s): None.

CART-131L Graphic Design Drawing Studio

01 Semester Credit

Laboratory course that explores use of various tools, materials, techniques and practices, with emphasis on graphic design.

Lecture 00 hours. Laboratory 02 hours.

Prerequisite(s): CART-1310 Graphic Design Drawing, or concurrent enrollment; or departmental approval.

CART-1340 Rendering Techniques

02 Semester Credits

Marker/mixed media rendering for presentation of advertising, commercial art and graphic design concepts to art directors, photographers and clients. Emphasis on presenting the concept including perspective, lighting and style. Exploration of tools, materials and techniques used to render storyboards, rough and comprehensive layouts and how they relate to creative process.

Lecture 01 hour. Laboratory 02 hours. Prerequisite(s): None.

CART-1400 Decorative Design

02 Semester Credits

Comprehensive course in surface design for various commercial applications including paper products, gift wrap, wallpaper, and wearable art. Emphasis on design process in creating mass market designs.

Lecture 01 hour. Laboratory 02 hours. Prerequisite(s): None.

CART-1500 Advertising and Design

02 Semester Credits

Fundamentals of advertising design for newspaper, magazine and direct mail. Emphasis on materials, skill and techniques used to develop an ad from research and thumbnail concepts to finished comps.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): CART-1300 Typography and Layout; and CART-1340 Rendering Techniques, or concurrent enrollment; or departmental approval.

Course Descriptions

Fall 2001 – Summer 2003 Catalog

CART-1600 Imaging and Design

01 Semester Credit

Skills and techniques in creation and manipulation of images. Emphasis on impact of design and use of visuals for advertising, publications and multimedia. Students in degree program must take related laboratory course.

Lecture 01 hour. Laboratory 00 hours. Prerequisite(s): None.

CART-160L Imaging and Design Studio

01 Semester Credit

Laboratory course to practice skills and techniques required to create and manipulate images.

Lecture 00 hours. Laboratory 02 hours.

Prerequisite(s): CART-1600 Imaging and Design, or concurrent enrollment; or departmental approval.

CART-1800 Special Topics in Commercial Art and Design

1-3 Semester Credits

CART-181S Special Laboratory Topics in Commercial Art and Design

1-3 Semester Credits

Specialized two-hour lab per credit.

CART-181T Special Laboratory Topics in Commercial Art and Design

1-3 Semester Credits

Specialized three-hour lab per credit.

CART-2300 Page Layout and Design

02 Semester Credits

[formerly CART-1320]

Designing electronic page layout with type, text, and images as applied to advertising, commercial art and graphic design. Emphasis on creating professional multi-page layouts using various applications.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): CART-1300 Typography and Layout, or concurrent enrollment; or departmental approval.

CART-2310 Graphic Design and Illustration

02 Semester Credits

Techniques, tools and skills in creating commercial illustration integrating type and visuals using various applications.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): CART-1310 Graphic Design Drawing, or concurrent enrollment; or departmental approval.

CART-2320 Designing for Production

02 Semester Credits

Designing for various reproduction processes. Emphasis on history, terminology, paper, ink, printing, and production art. Exploration of tools, materials, and practical considerations in preparing design for production art.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): CART-1300 Typography and Layout, or concurrent enrollment; or departmental approval.

CART-2330 Graphic Production

02 Semester Credits

Techniques and methods in assembling and finalizing production art for printing. Emphasis on preparation and practical considerations for electronic reproduction.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): CART-2320 Designing for Production, and CART-2300 Page Layout and Design; or departmental approval.

CART-2340 Illustration in Pen and Ink

02 Semester Credits

Use of various tools, materials and techniques used with pen and ink from portrait, product hardline to multi-image illustration.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): CART-1310 Graphic Design Drawing, or concurrent enrollment; or departmental approval.

CART-2350 Illustration with Prismacolor

02 Semester Credits

Emphasis on use of Prismacolor pencils as illustration medium for products and scenes.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): CART-1310 Graphic Design Drawing, or concurrent enrollment; or departmental approval.

CART-2360 Illustration with Watercolor

02 Semester Credits

Emphasis on development of full illustrations from products to scenes of human interests. Exploration and development of transparent and opaque watercolor techniques.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): CART-2350 Illustration with Prismacolor, or concurrent enrollment; or departmental approval.

CART-2410 Corporate Graphics

02 Semester Credits

Comprehensive course in corporate graphics. Emphasis on design process in creating corporate and brand identity. Exploration of visual and non-visual aspects of corporate graphics and their application.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): CART-1300 Typography and Layout, or concurrent enrollment; and CART-1310 Graphic Design Drawing, or concurrent enrollment; or departmental approval.

CART-2420 Publication Design

02 Semester Credits

Publication design including masthead, column, editorial and feature story page formats. Emphasis on using typography and images on multiple page formats. Exploration of practical and production considerations involved in publication design.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): CART-2300 Page Layout and Design or concurrent enrollment; or departmental approval.

CART-2430 Magazine Design

02 Semester Credits

Magazine design including masthead, cover, contents, editorial and feature page formats. Emphasis on using sophisticated design, typography, and images to communicate. Exploration of practical and production considerations involved in magazine design as a product itself.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): CART-2300 Page Layout and Design or concurrent enrollment; or departmental approval.

CART-2440 Package Design

02 Semester Credits

Comprehensive package course from initial concept to presentation of dummies and mock-ups. Emphasis on conceptual thinking and problem solving using typography, color and images on folded and soft packaging. Exploration of methods, materials, practical and production considerations involved in packaging design.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): CART-2300 Page Layout and Design or concurrent enrollment; or departmental approval.

CART-2450 Media Design

02 Semester Credits

Comprehensive media course from initial concept to presentation. Emphasis on interaction of type, image, motion, sound, and sequence in staging for various advertising media formats including commercials.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): CART-2300 Page Layout and Design and CART-1600 Imaging and Design; or departmental approval.

CART-2500 Creative Advertising Campaign

02 Semester Credits

Comprehensive advertising campaign course from initial campaign concept through presentation. Emphasis on conceptual thinking and problem solving for magazine, billboard and TV/video storyboard advertising. Exploration of the various facets of advertising agency structure including the team concept. Includes the designer's role in research, analysis, planning, conceptualizing, copywriting and presentation.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): CART-1500 Advertising and Design, or departmental approval.

CART-2700 Portfolio Preparation

02 Semester Credits

Capstone course in Commercial Art and Design. Covers all aspects of professional portfolio preparation and presentation including self-promotion, resumes, interviewing and professional practices in job market. Emphasis on analysis of student work under consideration for portfolio. Students prepare their portfolio, self-promotion and resume for presentation.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): CART-2320 Designing for Production, or concurrent enrollment; or departmental approval.

CART-2800 Special Advanced Topics in Commercial Art and Design

1-3 Semester Credits

CART-281S Special Advanced Laboratory Topics in Commercial Art and Design

1-3 Semester Credits

Specialized two-hour lab per credit.

CART-281T Special Advanced Laboratory Topics in Commercial Art and Design

1-3 Semester Credits

Specialized three-hour lab per credit.

CART-2820 Independent Advanced Study in Commercial Art and Design

1-3 Semester Credits

CART-2830 Cooperative Field Experience

1-3 Semester Credits

Course Descriptions

Fall 2001 – Summer 2003 Catalog

Court and Conference Reporting - C&CR

C&CR-1000 Introduction to Court Reporting

01 Semester Credit

Comprehensive survey of field of court reporting.

Examination of history of reporting, diversity, equipment needs and technological trends, role of the working reporter within legal system, corporate environment, and educational system.

Lecture 01 hour. Laboratory 00 hours. Prerequisite(s): None.

C&CR-1300 Realtime Theory

04 Semester Credits

Focus on principles of writing on stenotype machine. On-line instruction of machine shorthand keyboard, arbitraries, phrases, word beginnings and endings. Emphasis on reading, writing, and reporter English skills in preparation for speedbuilding and transcription.

Lecture 03 hours. Laboratory 03 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

C&CR-1310 Advanced Realtime Theory

02 Semester Credits

Advanced principles of theory providing consistent and logical writing techniques to insure conflict-free writing. Continued emphasis on reading, writing, and speed development using the stenotype machine. Question and Answer dictation introduced.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): C&CR-1300 Realtime Theory.

C&CR-1350 Legal Terminology

03 Semester Credits

Provides students with broad legal vocabulary, useful in any law related field. Emphasis on spelling, definition, and usage of legal terms.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

C&CR-1371 Using Court Reporting Technology

02 Semester Credits

Basics of computer aided transcription. Emphasis on basic terms, system supports, court reporting software, and beginning dictionary development.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): C&CR-1300 Realtime Theory.

C&CR-1400 Speedbuilding and Transcription at 100 WPM

02 Semester Credits

Speedbuilding at 80-100 wpm level. Utilization and expansion of machine-writing theory. Practical procedures on stenotype machine to develop beginning skill levels.

Minimum exit speed is 100 wpm.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): C&CR-1300 Realtime Theory.

C&CR-1410 Precision Writing I -- Using Brief Forms

01 Semester Credit

Designed to enhance writing skills on steno machine.

Emphasis on brief forms and specific phrases found in everyday vocabulary. Accuracy of outlines emphasized as well as use of specific brief forms. Course serves as companion to speedbuilding curriculum.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): C&CR-1300 Realtime Theory; and concurrent enrollment in C&CR-1400 Speedbuilding and Transcription at 100WPM, or C&CR-1450 Speedbuilding and Transcription at 140 WPM, or C&CR-2400 Speedbuilding and Transcription at 180 WPM, or C&CR-2450 Speedbuilding and Transcription at 225 WPM.

C&CR-1420 Precision Writing II -- Arbitraries in Legal Vocabulary

01 Semester Credit

Enhancement of student's writing skills on steno machine.

Emphasis on brief forms and specific phrases found within jury charge and other legal material. Accuracy of outlines emphasized as well as use of specific brief forms. Course serves as companion to speedbuilding curriculum.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): C&CR-1300 Realtime Theory; and concurrent enrollment in C&CR-1400 Speedbuilding and Transcription at 100 WPM, or C&CR-1450 Speedbuilding and Transcription at 140 WPM, or C&CR-2400 Speedbuilding and Transcription at 180 WPM, or C&CR-2450 Speedbuilding and Transcription at 225 WPM.

C&CR-1430 Precision Writing III--Numeric and Alphabetic Accuracy

01 Semester Credit

Continuation to improve writing skills on steno machine.

Emphasis on numeric material and proper names. Accuracy of "finger spelling", phonetic writing of names with verification of name emphasized, as well as ability to write numbers fluently. Course serves as companion to speedbuilding courses.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): C&CR-1300 Realtime Theory; and concurrent enrollment in C&CR-1400 Speedbuilding and Transcription at 100WPM, or C&CR-1450 Speedbuilding and Transcription at 140 WPM, or C&CR-2400 Speedbuilding and Transcription at 180 WPM, or C&CR-2450 Speedbuilding and Transcription at 225 WPM.

C&CR-1450 Speedbuilding and Transcription at 140 WPM

02 Semester Credits

Speedbuilding at 120-140 wpm level. Utilization and expansion of machine-writing theory. Practical procedures on stenotype machine to develop skill levels on question and answer testimony, jury charge and literary materials.

Minimum exit speed is 140 wpm.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): C&CR-1400 Speedbuilding and Transcription at 100 WPM.

C&CR-1500 Speedwriting

03 Semester Credits

Practical hands-on approach to developing skills in use of RapidWrite software program, high-speed data entry package to translate steno into word processing.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): C&CR-1300 Realtime Theory.

Course Descriptions

Fall 2001 – Summer 2003 Catalog

C&CR-1800 Special Topics in Court and Conference Reporting

1-3 Semester Credits

C&CR-181S Special Laboratory Topics in Court and Conference Reporting

1-3 Semester Credits

Specialized two-hour lab per credit.

C&CR 181T Special Laboratory Topics in Court and Conference Reporting

1-3 Semester Credits

Specialized three-hour lab per credit.

C&CR-1820 Independent Study in Court and Conference Reporting

1-3 Semester Credits

C&CR-2300 Court Procedures

03 Semester Credits

Emphasizes role of official and freelance reporter including communications skills, professional image and business etiquette. Preparation of deposition/court transcripts, marking and handling of exhibits, indexing and storing notes, reporting techniques and ethics, including NCRA Code of Ethics.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): C&CR-1300 Realtime Theory.

C&CR-2350 Editing Legal Documents

02 Semester Credits

To develop understanding of parts of speech, sentence structure, proofreading, and management of other people's spoken words. Rules of punctuation and grammar go beyond the basics and are modified to accommodate ambiguous, clumsy, incongruous, and incorrect English frequently found in legal transcripts.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): BADM-1000 Business Language Skills or concurrent enrollment.

C&CR-2400 Speedbuilding and Transcription at 180 WPM

02 Semester Credits

Speedbuilding at 160-180 wpm level. Utilization and expansion of machine-writing theory. Practical procedures on stenotype machine to develop skill levels on question and answer testimony, jury charge and literary materials. Minimum exit speed is 180 wpm.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): C&CR-1450 Speedbuilding and Transcription at 140 WPM.

C&CR-2450 Speedbuilding and Transcription at 225 WPM

02 Semester Credits

Speedbuilding at CASE completion speed level at 225 wpm Question and Answer test, 200 wpm Jury Charge material and 180 wpm Literary. Utilization and expansion of machine-writing theory. Practical procedures on stenotype machine to develop skill levels on question and answer testimony, jury charge and literary materials.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): C&CR-2400 Speedbuilding and Transcription at 180 WPM.

C&CR-2470 Advanced Technology

03 Semester Credits

Capstone course in Court and Conference Reporting. Students apply technology and format applications to produce transcripts in preparation for initial employment. A concentrated, production-oriented class with employment related projects, deposition projects, and realtime projects.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): C&CR-1371 Using Court Reporting Technology, and C&CR-1450 Speedbuilding and Transcription at 140 WPM.

C&CR-2600 Technical Terminology I

03 Semester Credits

Designed to expose students to much of subject matter court reporters encounter. Emphasis on medical and technical testimony with material duplicated from real-life situations.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): C&CR-1450 Speedbuilding and Transcription at 140 WPM.

C&CR-2651 Technical Terminology II

03 Semester Credits

Continued exposure to writing technical and medical vocabularies with emphasis on multi-voice dictation. Students will develop consistent writing patterns for terms and multi-voice designations in order to produce near-perfect, first-pass transcripts.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): C&CR-1450 Speedbuilding and Transcription at 140 WPM.

C&CR-2800 Special Advanced Topics in Court and Conference Reporting

1-3 Semester Credits

C&CR-281S Special Advanced Laboratory Topics in Court and Conference Reporting

1-3 Semester Credits

Specialized two-hour lab per credit.

C&CR-281T Special Advanced Laboratory Topics in Court and Conference Reporting

1-3 Semester Credits

Specialized three-hour lab for credit.

C&CR-2820 Independent Advanced Study in Court and Conference Reporting

1-3 Semester Credits

C&CR-2840 Internship

01 Semester Credit

Provides student with 75 hours of actual writing time during on-the-job training using machine shorthand technology.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Directed practice: 5 hours per week.

Prerequisite(s): Concurrent enrollment in C&CR-2450 Speedbuilding and Transcription at 225 WPM, and departmental approval.

Dance – DANC

DANC-1100 Dance Appreciation

03 Semester Credits

Introduction to elements and styles of the art of dance. Increase student's ability to identify and understand stage, movie and video dance styles through visual and movement concepts. Various performing artists and choreography studied in cultural and historical context.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

DANC-1220 Theatre Dance/Stage Movement

03 Semester Credits

Basic stage geography, and theatre dance: jazz, latin, waltz, polka, and musical staging for singers and actors. Non-theatre majors learn techniques to analyze and control non-verbal communication (body language). Control and organization of space, energy and time, including basic stage combat, applied to group activities.

Lecture 02 hours. Laboratory 02 hours. Prerequisite(s): None.

DANC-1400 African Dance I

03 Semester Credits

Introduction to fundamentals and basic movement of West Africa. Culture, history and philosophy of West African dance explored through song, music, costumes and language. Minimum of two hours per week preparing dance presentations, viewing selected video performances and attending live dance performances are required. (Course may only transfer as elective credits.)

Lecture 02 hours. Laboratory 02 hours. Prerequisite(s): None.

DANC-1410 African Dance II

03 Semester Credits

Secondary theories and practices of African Dance techniques. Advanced exploration of culture, history and philosophy of West African dance through song, music costumes and language. Minimum of two hours per week preparing dance presentation, viewing selected video performances and attending live dance performances are required. (Course may only transfer as elective credits.)

Lecture 02 hours. Laboratory 02 hours. Prerequisite(s): DANC-1400 African Dance I.

DANC-1500 Dance I

03 Semester Credits

For student with limited or no dance experience. Movement vocabulary of modern dance, ballet and jazz will train student to recognize and perform basic dance combinations, understand importance of proper alignment and muscular awareness, and analyze basic elements of movement: time, space and energy.

Lecture 02 hours. Laboratory 02 hours. Prerequisite(s): None.

DANC-1510 Dance II

03 Semester Credits

Further study of secondary techniques of modern dance. Stresses dance as artistic form of self expression. Students identify variety of rhythms and perform secondary and intermediate dance combinations.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): DANC-1500 Dance I, or departmental approval: comparable knowledge or skills.

DANC-1600 Choreography and Production

02 Semester Credits

Student learns to make solo and group dances by exploring choreography process: content, form, technique and projection. Through formal and informal dance performances, student learns elements of lighting, costuming, public relations and promotion.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): DANC-1500 Dance I, or departmental approval: comparable knowledge or skills.

DANC-1800 Special Topics in Dance

1-3 Semester Credits

DANC-181S Special Laboratory Topics in Dance

1-3 Semester Credits

Specialized two-hour lab per credit.

DANC-2300 Dance III: Technique

02 Semester Credits

Intermediate dance techniques, concepts and theories. Studio work challenges and nurtures student's creative and interpretive ability and performance techniques.

Lecture 00 hours. Laboratory 04 hours.

Prerequisite(s): DANC-1510 Dance II, or departmental approval: comparable knowledge or skills.

DANC-2310 Dance IV: Technique

02 Semester Credits

Advanced dance techniques emphasizing dynamic variety and challenging physical limitations and movement memory. Exploration of different modern techniques and dance accompaniment applied to studio work.

Lecture 00 hours. Laboratory 04 hours.

Prerequisite(s): DANC-2300 Dance III: Technique, or departmental approval: comparable knowledge or skills.

DANC-2800 Special Advanced Topics in Dance

1-3 Semester Credits

DANC-281S Special Advanced Laboratory Topics in Dance

1-3 Semester Credits

Specialized two-hour lab per credit.

Course Descriptions

Fall 2001 – Summer 2003 Catalog

Deaf Interpretive Services - DIS

DIS-1300 Interpreting Fundamentals

03 Semester Credits

History of interpreting, professional behavior in the interpreting field, and application of the Registry of Interpreters of the Deaf's (RID) Code of Ethics to various interpreting situations.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

DIS-1310 Interpreting I

02 Semester Credits

Theoretical and practical approach to process of sign language interpreting. Student will be actively learning how to render a spoken message in American Sign Language.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): DIS-1300 Interpreting Fundamentals and ASL-1010 Beginning American Sign Language I.

DIS-1400 American Sign Language Structure

02 Semester Credits

Study of linguistics of American Sign Language by comparing lexicon and syntax to other forms of sign language and English.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ASL-1010 Beginning American Sign Language I.

DIS-1800 Special Topics in Deaf Interpretive Services

1-3 Semester Credits

Study of selected topics or current issues in Deaf Interpretive Services. Provides student an opportunity to explore various topics in greater detail (see Credit Schedule of classes for current offerings). Repeatable for different topics. No more than six credits of special topics may be applied toward elective and/or program graduation degree requirements.

Lecture 1-3 hours. Laboratory 00 hours

Prerequisite(s): Faculty counterparts determine appropriate prerequisite/corequisite for each topic.

DIS-1850 Practicum I

02 Semester Credits

Experience interpreting situations and applying concepts learned in the classroom to actual work setting. Students will maintain a log of their experiences. They will be supervised by an approved interpreter.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 14 hours per week.

Prerequisite(s): DIS-1300 Interpreting Fundamentals, ASL-1000 Fingerspelling, ASL-1020 Beginning American Sign Language II, and concurrent enrollment in DIS-1970 Practicum Seminar I.

DIS-1970 Practicum Seminar I

01 Semester Credits

Supplements practicum experience by providing opportunities for sharing experiences through log entries, videotapes, and group discussions.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Seminar: 1 hour per week.

Prerequisite(s): DIS-1300 Interpreting Fundamentals, ASL-1000 Fingerspelling, ASL-1020 Beginning American Sign Language II, and concurrent enrollment in DIS-1850 Practicum I.

DIS-2300 Transliterating

02 Semester Credits

Theoretical and practical approach to process of sign language transliterating. Student will be actively learning how to render a spoken English message in Contact Sign as well as Contact Sign into spoken English.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): ASL-2010 Intermediate American Sign Language I.

DIS-2310 Interpreting II

02 Semester Credits

Development of techniques learned in Interpreting I.

Various types and situations in interpreting also discussed.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): ASL-1020 Beginning American Sign Language II, and DIS-1310 Interpreting I.

DIS-2410 Voicing

02 Semester Credits

Focus on development of primary voicing skills needed in reverse interpreting for people who are deaf.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): DIS-2300 Transliterating, and ASL-2010 Intermediate American Sign Language I.

DIS-2800 Special Advanced Topics in Deaf Interpretive Services

01-03 Semester Credits

Study of selected advanced topics or current issues in Deaf Interpretive Services. Provides student an opportunity to explore various topics in greater detail (see Credit Schedule of classes for current offerings). Repeatable for different topics. No more than six credits of special topics courses may be applied toward elective and/or program graduation degree requirements.

Lecture 1-3 hours. Laboratory 00 hours

Prerequisite(s): Faculty counterparts determine appropriate prerequisite/corequisite for each topic.

DIS-2850 Practicum II

02 Semester Credits

Continuation of first practicum class with primary aim of assisting students to enter job market at an entry-level position. Students will maintain log of their experiences. They will be supervised by an approved interpreter.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 14 hours per week.

Prerequisite(s): DIS-1850 Practicum I, ASL-2010 Intermediate American Sign Language I, and concurrent enrollment in DIS-2970 Practicum Seminar II.

DIS-2970 Practicum Seminar II

01 Semester Credits

Capstone course in Deaf Interpretive Services. Supplements practicum experience by providing opportunities for sharing experiences through log entries, videotapes, and group discussions.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Seminar: 1 hour per week.

Prerequisite(s): DIS-1850 Practicum I, DIS-1970 Practicum Seminar I, ASL-2010 Intermediate American Sign Language I, and concurrent enrollment in DIS-2850 Practicum II.

Dental Assisting - DAST

DAST-1300 Dental Assisting Methods I

05 Semester Credits

Integrated study of dental equipment, instruments, materials, assistant and operator role, and clinical procedures associated with delivery of basic dental treatment. Physical and biological properties of restorative materials, bases, gypsum products, and impression materials are discussed as a foundation for mastering application of these materials in practice with focus on examination, diagnostic, amalgam, and composite procedures. Skills developed in preparation and manipulation of materials and instruments, in principles and practice of four-handed dentistry, and in anticipating needs of operator.

Introduction to principles of microbial activity and application of current practices of infection control in dental office. Observation in a general practice setting required.

Lecture 02 hours. Laboratory 09 hours.

Prerequisite(s): BIO-1200 Oral Structure and Development, or concurrent enrollment.

DAST-1310 Dental Assisting Radiography I

03 Semester Credits

Study of physical properties of x-radiation, generation of x-rays for dental applications, uses of x-rays in dentistry, and understanding of and adherence to strict safe operating procedures and infection control practices. Theory and practice in fundamentals of oral radiographic technique as relevant to dental assistant. Emphasis on mastery of bisect-the-angle exposure technique in producing diagnostically acceptable full mouth and bite-wing radiographs on adult patient. After successful skill development utilizing manikins, a supervised experience on a patient will be scheduled. Skills developed in processing, mounting and evaluation of film, including recognition of errors and methods for their correction, and recognition of normal anatomic landmarks.

Lecture 01 hour. Laboratory 06 hours.

Prerequisite(s): BIO-1200 Oral Structure and Development, or concurrent enrollment.

DAST-1320 Dental Office Management

03 Semester Credits

Development of sound dental office business procedures and identification of role of dental auxiliary in management of dental practice. Emphasis on appointment scheduling guidelines, bookkeeping, telephone etiquette, collections, banking and insurance procedures. Review of basic math, grammar and spelling. Typing and computer keyboard skills introduced and/or reinforced.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): BIO-1200 Oral Structure and Development, or departmental approval.

DAST-1400 Dental Assisting Methods II

03 Semester Credits

Integrated study of dental equipment, instruments, materials, assistant and operator roles, and clinical procedures associated with delivery of specialty dental treatment. Physical and biological properties of materials discussed as foundation for application of these materials during endodontic, removable and fixed prosthodontics, orthodontic, surgical, and periodontic clinical procedures. Skills developed in preparation and manipulation of materials, instruments and equipment, in principles and practices of four-handed dentistry, in anticipating needs of operator, and in monitoring patient reaction. Observation in specialty practice required.

Lecture 01 hour. Laboratory 06 hours.

Prerequisite(s): DAST-1300 Dental Assisting Methods I; and DAST-1860 Dental Assisting Practicum, or concurrent enrollment.

DAST-1410 Dental Assisting Radiography II

02 Semester Credits

Theory and practice in fundamentals of oral radiographic technique for special applications including occlusal, panoramic, edentulous and pediatric radiographs. Emphasis on mastery of the paralleling exposure technique, using extension cone paralleling device, in producing diagnostically acceptable full mouth and bite-wing radiographs on adult patient. Patients will be regularly appointed to dental assisting radiography course clinic where students will develop clinical competence under instructor supervision. Skills in maintenance of processing equipment, duplication of radiographs, monitoring quality assurance of equipment, charting existing restoration from radiographs, and recognition of pathologic condition commonly seen on radiographs.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): DAST-1310 Dental Assisting Radiography I.

DAST-1420 Current Concepts for the Dental Assistant

01 Semester Credit

Basic overview of clinical concepts and knowledge needed by Certified Dental Assistant. Emphasis on chairside assisting, infection control and radiology.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): Departmental approval: industry-related experience.

DAST-1800 Special Topics in Dental Assisting

1-3 Semester Credits

DAST-1820 Independent Study in Dental Assisting

1-3 Semester Credits

DAST-1850 Dental Assisting Practice

02 Semester Credits

Practical application of dental assisting skills and principals via field experience in a dental practice. Emphasis on chairside assisting, infection control, radiology, personal and professional growth. Seminar allows students to share learning experience.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 7 hours per week.

Seminar: 1 hour per week.

Prerequisite(s): DAST-1300 Dental Assisting Methods I or concurrent enrollment, or departmental approval.

DAST-1860 Dental Assisting Practicum

04 Semester Credits

Practical application of dental assisting skill and principles via a field experience in a dental practice setting under supervision of program-recognized practitioner or supervisor. Students rotate through various dental facilities. Emphasis is placed on techniques, efficiency, patient contact and personal and professional growth. Participation in campus-based weekly seminar allows students to share learning experiences. Guest speakers.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 21 hours per week.

Seminar: 1 hour per week.

Prerequisite(s): DAST-1400 Dental Assisting Methods II, or concurrent enrollment.

Dental Hygiene - DENT

DENT-1300 Preventative Oral Health Services I

04 Semester Credits

Principles of dental hygiene practice and professionalism. Knowledge and understanding of infection control, medical history, vital signs and oral inspection prior to treatment. Philosophy of preventive oral health and its relevance to dental hygiene. Etiology, pathogenesis, treatment and prevention of oral accretions. Principles of technique for the oral prophylaxis. Students practice on mannequins and then apply instruments to the mouth. Study of diagnostic aids in dental hygiene care, as well as medical emergencies.

Lecture 02 hours. Laboratory 06 hours.

Prerequisite(s): Departmental approval: admission to program.

DENT-1310 Dental Anatomy

02 Semester Credits

Study of form and function of the mouth, primary and permanent teeth, dental terminology, oral landmarks, comparative anatomy of teeth -crown and root structure, temporomandibular joint, occlusion and dental anomalies.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to program.

DENT-1330 Radiology

03 Semester Credits

History and development of x-ray, its nature and properties. Safety precautions and uses of x-ray in dentistry. Theory and practice in fundamentals of oral radiographic technique. Film placement, and tube angulation, processing and mounting of films.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): Departmental approval: admission to program.

DENT-1340 Dental Hygiene Care Ethics

01 Semester Credits

Study of ethical, moral and professional topics in Dental Hygiene. Introduction to ethical theories and principles related to patient care and decision-making models. Exploration of ethical dilemmas through applied case scenarios.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): Department approval, or acceptance to the Dental Hygiene program.

DENT-1400 Preventative Oral Health Services II

05 Semester Credits

Methods and materials utilized to implement preventive oral health. Apply knowledge of plaque control to client oral physiotherapy instruction. Apply topical anticariogenic agents and understand mode of action. Study of clinic manual to apply knowledge of all facets of treatment of clients in dental hygiene clinic. Students perform oral prophylaxis, expose radiographs, apply topical fluoride to teeth and provide oral health services to adult and child clients in the clinic. Special needs of geriatric and handicapped clients discussed.

Lecture 01 hour. Laboratory 12 hours.

Prerequisite(s): DENT-1300 Preventative Oral Health Services I.

DENT-1410 Current Concepts in Dental Materials

02 Semester Credits

Physical properties of dental materials and basic principles of their preparation. Application of principles of dental materials by manipulating cements, bases, liners, amalgam, impression materials, composites, bonding and sealant materials in laboratory setting.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): DENT-1300 Preventive Oral Health Services I.

DENT-1420 Periodonics I

02 Semester Credits

Study of the anatomy and histology of the periodontium in health and disease. Focus on the pathogenesis of the various classifications of gingival and periodontal diseases: microbiological, host response, local and systemic risk factors. Contemporary periodontal adjuncts considered. Major research paper required.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): DENT-1300 Preventative Oral Health Services I.

DENT-1430 Head and Neck Anatomy

03 Semester Credits

Study of structure and function of head and neck. General anatomy of skull, related muscles, vascular and nerve supply and lymphatics of the region considered. Focus on muscles of mastication and their relationship to the temporomandibular joint, facial and trigeminal nerves and their relationship with dental injections. Discussion on spread of infection and its clinical manifestations.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): DENT-1300 Preventative Oral Health Services I.

DENT-1800 Special Topics in Dental Hygiene

1-3 Semester Credits

DENT-1820 Independent Study in Dental Hygiene

1-3 Semester Credits

DENT-2300 Preventive Oral Health Services III

05 Semester Credits

Study and clinical application of principles of performing oral prophylaxis, exposing radiographs, applying preventive therapeutics and developing home care education. Introduction to treatment planning and assessment of clinical protocols with clients, including emphasis on special needs client or patient. Ten hours of case report presentations required to discuss clinical care.

Lecture 01 hour. Laboratory 12 hours.

Prerequisite(s): DENT-1400 Preventive Oral Health Services II.

DENT-2320 Periodonics II

02 Semester Credits

Study of advanced non-surgical and surgical treatment modalities for periodontal diseases. Discussion of soft tissue management, dental implants and periodontal emergencies. Presentation on human immunodeficiency virus and its clinical manifestations. Laboratory provides practicum experience with non-surgical treatment of periodontally involved clients.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): DENT-1420 Periodonics I.

DENT-2331 Pharmacology and Therapeutics

03 Semester Credits

Discussion of pharmacological effects of drugs and anesthetics, adverse reactions, and their usual indications and contraindications for preoperative and postoperative client care. Overview of agents used specifically for pain management and medical emergencies will be presented referencing the health history and dental hygiene assessment for treatment protocols.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): DENT-1400 Preventive Oral Health Services II.

DENT-2400 Preventive Oral Health Services IV

05 Semester Credits

Continuation of clinical experience integrating social and basic sciences within scope of dental hygiene practice. Review of preventive oral health service methodologies with discussion and application of periodontal regimens. Incorporation of nutritional counseling and supplemental preventive treatment procedures through case-based presentations. Ten hours of case report presentations required to discuss clinical care.

Lecture 01 hour. Laboratory 12 hours.

Prerequisite(s): DENT-2300 Preventive Oral Health Services III.

DENT-2410 Community Oral Health

02 Semester Credits

Study of principles of public health dentistry. Research design as it relates to scientific journal articles. Concepts of epidemiology, dental needs assessment, planning, implementation and evaluation of community dental health practices. Review of special needs programs and public health dental care approach to preventive dentistry. Three to six hours of community service.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): DENT-2300 Preventive Oral Health Services III.

DENT-2430 Dental Hygiene Practice

01 Semester Credit

Capstone course in Dental Hygiene. Preparation for entry into dental hygiene career. Topics include preparing for employment, legal and ethical concerns of dental practice, aspects of practice management, and planning for the future.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): DENT-2300 Preventive Oral Health Services III.

DENT-2800 Special Advanced Topics in Dental Hygiene

1-3 Semester Credits

DENT-281S Special Advanced Laboratory Topics in Dental Hygiene

01-03 Semester Credits

Specialized two-hour lab per credit.

DENT-2820 Independent Advanced Study in Dental Hygiene

1-3 Semester Credits

Diagnostic Medical Sonography - DMS

DMS-1300 Introduction to Sonography

04 Semester Credits

Study of terminology, anatomical scanning planes, standard presentation, annotations, knobology, scanning protocols and techniques, and preparation as pertaining to abdominal and pelvic sonography. Application of transducer manipulations, body mechanics, and sonographic scanning techniques in laboratory setting under personal direct supervision of registered diagnostic medical sonographer to reinforce learning activities. Patient care, standard precaution, latex sensitivity/allergy issues are also discussed.

Lecture 01 hours. Laboratory 09 hours.

Prerequisite(s): Departmental approval: admission to program

DMS-1301 Introductory Sonographic Scanning

03 Semester Credits

Study of terminology, anatomical scanning planes, standard presentation, annotations, knobology, scanning protocols and techniques, and preparation as pertaining to sonography. Application of transducer manipulations, body mechanics, and sonographic scanning techniques in laboratory setting under personal direct supervision of registered diagnostic medical sonographer to reinforce learning activities.

Lecture 01 hour. Laboratory 06 hours.

Prerequisite(s): Departmental approval: admission to Diagnostic Medical Sonography program.

DMS-1350 Patient Care and Basic Medical Techniques

01 Semester Credit

Demonstration of patient care skills and practical application of basic medical techniques in lab setting. Introduction to medicolegal and ethical aspects.

Lecture 00 hours. Laboratory 03 hours.

Prerequisite(s): Departmental approval: pursuing health career degree, or working in a health career field.

DMS-1360 Anatomy and Physiology for Cardiovascular Sonographers

02 Semester Credits

Discussion of cardiovascular system beginning with embryological development of heart, fetal circulation, and abnormal heart formation. Gross anatomy and physiology, as well as cardiac function and exercise physiology reviewed. Cardiovascular hemodynamics, pathology, and pharmacology introduced.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Admission to Diagnostic Medical Sonography program or department approval.

DMS-1370 Clinical Cardiovascular Assessment

02 Semester Credits

Introduction to physical diagnosis in cardiovascular medicine. History and physical examination, laboratory tests, invasive hemodynamic evaluations, as well as non-invasive diagnostic tests used to assess various cardiovascular pathologies. Special emphasis on identifying indications for ultrasound examinations based on patient's symptoms or preexisting conditions.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Admission to Diagnostic Medical Sonography program or department approval.

DMS-1380 Cardiac Diagnostic Procedures

04 Semester Credits

Theory and laboratory practice of entry-level cardiovascular procedures of electrocardiography (ECG) and exercise stress testing. Interpretation practice from 12 lead ECG tracings. Fundamentals of Holter monitoring, and pacemakers. Emphasis on technical accuracy in operational, problem solving and quality control skills.

Lecture 03 hours. Laboratory 03 hours.

Prerequisite(s): Department approval: pursuing health career degree, or working in a health career field.

DMS-1400 Abdominal Sonography I

03 Semester Credits

Study of normal anatomy and anatomic variants, physiology, pathology, and pathophysiology of upper abdominal cavity, peritoneal cavity and potential spaces, and associated vasculature to include: aorta, IVC, liver, pancreas, gall bladder, and biliary system as visualized by ultrasound. Doppler and color Doppler and color Doppler applications for the liver, portal vein, and great vessels.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval.

DMS-1500 Gynecologic and Obstetrical Sonography

04 Semester Credits

Study of normal anatomy and anatomic variants, physiology, pathology, and pathophysiology of female pelvis (non-pregnant, post-partum and post menopausal) and female reproductive system as related to sonography. Includes monitoring infertile patient. Anatomy, physiology, anomalies, and pathology of maternal, embryo, and fetal anatomic structures during the first trimester studied. Delineates purpose and appropriateness of transabdominal versus transvaginal scanning approaches with associated patient and ethical issues. Doppler and color Doppler applications and biometrics of non-gravid uterus and ovaries discussed.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval.

DMS-1600 Echocardiography I

02 Semester Credits

Theory of echocardiography. Focuses on imaging normal anatomy, anatomic variants, physiology, pathology, and pathophysiology of the heart with ultrasound. Visual pathology recognition and identification stressed on both transthoracic and transesophageal examinations. History and physical examination results including signs, symptoms, and indications for exam will be reviewed along with introduction of each major pathology.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): DMS-1360 Anatomy and Physiology for Cardiovascular Sonographers, and DMS-1370 Clinical Cardiovascular Assessment, or departmental approval.

DMS-1700 Vascular Sonography I

03 Semester Credits

Focus on non-invasive vascular examinations necessary to diagnose cerebral vascular and peripheral vascular diseases. Microscopic and gross vascular anatomy, as well as sonographic appearance of vascular structures, and duplex scan protocols will be discussed. History and physical exam findings, mechanisms of disease production, and the wide array of arterial pathologies a sonographer might encounter clinically. Arteriography introduced, as well as medical and surgical therapeutic interventions, and their impact on sonographic examinations.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Concurrent enrollment in DMS-2350 Sonographic Instruments and Physics, or DMS-2370 Advanced Sonographic Physical Principles and Flows, or departmental approval.

DMS-1800 Special Topics in Diagnostic Medical Sonography

1-3 Semester Credits

DMS-181S Special Laboratory Topics in Diagnostic Medical Sonography

1-3 Semester Credits

Specialized two-hour lab for credit.

DMS-1820 Independent Study in Diagnostic Medical Sonography

1-3 Semester Credits

DMS-1910 Initial Directed Practice

03 Semester Credits

Supervised practical applications of sonography scanning techniques in clinical setting under personal supervision of registered diagnostic medical sonographer or qualified physician. Emphasis on simple-level scanning skills of the abdomen and pelvis. Skills developed related to departmental processes, procedures, protocols, and patient care. Clinical experience in an ultrasound lab for sixteen weeks.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Directed practice: 18 hours per week.

Prerequisite(s): DMS-1300 Introduction to Sonography, or departmental approval; and concurrent enrollment in DMS-1500 Gynecologic and Obstetrical Sonography and DMS-2400 Abdominal Sonography II.

DMS-1920 Directed Practice I

04 Semester Credits

Supervised practical applications of sonography scanning techniques in clinical setting under personal and direct supervision of registered diagnostic medical sonographer or qualified physician. Emphasis on competency in scanning basic exams of the abdomen and pelvis. Skills developed related to departmental processes, procedures, protocols, and patient care. Clinical experience in ultrasound lab for ten weeks.

Lecture 01 hours. Laboratory 00 hours.

Other Required Hours: Directed practice: 27 hours per week.

Prerequisite(s): DMS-1910 Initial Directed Practice, or departmental approval.

DMS-2300 Intermediate Sonographic Scanning

01 Semester Credit

Supervised applications of sonography scanning techniques in laboratory setting under personal and direct supervision of registered diagnostic medical sonographer. Emphasis on developing competency in scanning basic exams and developing scanning skills in performing more complex intermediate level sonographic procedures.

Lecture 00 hours. Laboratory 03 hours.

Prerequisite(s): DMS-1301 Introductory Sonographic Scanning, or departmental approval.

DMS-2350 Sonographic Instruments and Physics

03 Semester Credits

Basic physics and related mathematics as applied to ultrasound. Study of basic acoustical principles, sound transmission, signal processing, Doppler principles and related instrumentation, transducer construction, ultrasound instrumentation, quality assurance, and potential bioeffects of diagnostic ultrasound on soft tissue.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Departmental Approval

DMS-2370 Advanced Sonographic Physical Principles and Flows

03 Semester Credits

Advanced ultrasound physical concepts and instrumentation utilized in diagnosis of vascular diseases. Focus on assessing arterial, cerebral, and venous blood flow in health and disease. Doppler physical principles, equipment, and methods of evaluation introduced. In-depth study of indirect testing methods including plethysmography reviewed.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Departmental Approval.

DMS-2400 Abdominal Sonography II

04 Semester Credits

Continuation of normal anatomy and anatomic variants, physiology, pathology, and pathophysiology of the abdominal cavity and the retroperitoneum to include: renal, adrenal, splenic, lymphatic, gastrointestinal systems, non-cardiac chest and the retroperitoneal cavity as it pertains to diagnostic ultrasound. Normal anatomy and anatomic variants, physiology, pathology and pathophysiology of superficial structures to include the breast, neck, thyroid, musculoskeletal, pediatric hip and spine, and male reproductive system including testicular, transrectal prostate, and penile ultrasound studies. Study of Doppler and Color Flow vascular applications of above mentioned

organs and systems. Ultrasound-guided invasive procedures discussed.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): DMS-1400 Abdominal Sonography I, or departmental approval.

DMS-2500 Obstetrical Sonography

04 Semester Credits

Study of normal anatomy and anatomic variants, physiology, pathology and pathophysiology of gravid pelvis and fetus during second and third trimesters as related to sonography. Focus on fetal biometry, fetal size and age assessment, fetal maturity of second and third trimester, conditions involving multiple gestations, fetal abnormalities, and effects of maternal disease on the pregnancy. Also includes sonographic procedures for amniocentesis, chorionic villus sampling, Doppler and color Doppler applications of uterine artery, umbilical cord and fetal aorta. Ethical issues in obstetric sonography and support of parental-fetal bonding discussed.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): DMS-1500 Gynecologic and Obstetrical Sonography, or departmental approval.

DMS-2600 Echocardiography II

02 Semester Credits

Theory of Doppler echocardiography. Focus on assessing blood flow in health and disease. Doppler physical principles and instrumentation utilized in diagnosis of disease, as well as various principles that affect hemodynamics are reviewed. Color and spectral Doppler techniques discussed as they apply to both clinical transthoracic and transesophageal echocardiographic examinations. History and physical examination results including signs, symptoms, and indications for exam will be reviewed along with introduction of each major pathology.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): DMS-1600 Echocardiography I, and DMS-2350 Sonographic Instruments and Physics; or departmental approval.

DMS-2700 Vascular Sonography II

01 Semester Credit

Study of non-invasive vascular examinations utilized in diagnosis of venous disease, with focus on venous duplex scanning, and venous plethysmography. Duplex examination of both arterial and venous abdominal vasculature introduced. Transcranial Doppler reviewed, as well as scanning of arterio-venous fistulae, arterial bypass grafts, and other related arterial pathologies. Focus on examination protocols, history and physical findings, mechanisms of pathogenesis, as well as introduction to venography.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): DMS-2350 Sonographic Instruments and Physics, or DMS-2370 Advanced Sonographic Physical Principles and Flows and DMS-1700 Vascular Sonography I, or departmental approval.

DMS-2800 Special Advanced Topics in Diagnostic Medical Sonography

1-3 Semester Credits

Course Descriptions

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DMS-281S Special Advanced Laboratory Topics in Diagnostic Medical Sonography

1-3 Semester Credits

Specialized two-hour lab for credit.

DMS-2820 Independent Advanced Study in Diagnostic Medical Sonography

1-3 Semester Credits

DMS-2910 Directed Practice II

04 Semester Credits

Supervised practical applications of sonography scanning techniques in clinical setting under direct supervision of registered diagnostic medical sonographer or qualified physician. Emphasis on competency of scanning skills in performing abdominal, superficial, Doppler and pelvic (pregnant and non-pregnant) sonographic procedures. Skills developed related to departmental processes, procedures, protocols, and patient care. Clinical experience in ultrasound lab for sixteen weeks.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Directed practice: 24 hours per week.

Prerequisite(s): DMS-1920 Directed Practice I, or departmental approval; and concurrent enrollment in DMS-2500 Obstetrical Sonography.

DMS-2920 Directed Practice III

04 Semester Credits

Supervised practical applications of sonography scanning techniques in clinical setting under direct supervision of registered diagnostic medical sonographer or qualified physician. Emphasis on scanning experience and exam duration in performing abdominal, superficial, Doppler, and pelvic (pregnant and non-pregnant) sonographic procedures. Skills developed related to departmental processes, procedures, protocols, and patient care. Review for national credentialing exam in specialties of abdomen and ob/gyn given by the American Registry of Diagnostic Medical Sonographers (ARDMS). Clinical experience in ultrasound lab for sixteen weeks.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Directed practice: 24 hours per week.

Prerequisite(s): DMS-2910 Directed Practice II, or departmental approval; and concurrent enrollment in DMS-2990 Quality Assurance and Quality Control in Sonography.

DMS-2930 Directed Practice IV

04 Semester Credits

Supervised practical applications of sonography scanning techniques in clinical setting under direct supervision of registered diagnostic medical sonographer or qualified physician. Emphasis on refining scanning skills and enhancing knowledge of various sonographic procedures. Students continue to develop skills related to departmental processes, procedures, protocols, and patient care. Clinical experience in an ultrasound lab for 10 weeks.

Lecture 01 hour. Laboratory 00 hours.

Other Required Hours: Directed practice: 27 hours per week for 10 weeks.

Prerequisite(s): DMS-2920 Directed Practice III, or departmental approval.

DMS-2970 Vascular Surgical Procedures and Clinical Correlation

02 Semester Credits

Seminar that exposes student to variety of state-of-the-art medical and surgical procedures utilized in treating patients with vascular disease. Aortic resection, bypass grafting, angioplasty with stenting, and a variety of other therapeutic techniques discussed. Intravascular ultrasound imaging and its clinical applications introduced. Topics presented in case-based format, so that student develops ability to see patient proceed from initial presentation and non-invasive diagnosis, to invasive assessment and therapy. In each case, student will discuss exam indications and appropriateness, and offer differential diagnoses.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Seminar: 30 hours per semester.

Prerequisite(s): DMS-1700 Vascular Sonography I, or departmental approval.

DMS-2980 Sonography Review

02 Semester Credits

Global review of physics, anatomy, physiology, and pathology in relation to sonography. Test taking skills, image identification, and procedural scenarios covered. Special focus on exam content outline topics to assist student preparing to take national credentialing examinations for sonography.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Seminar: 30 hours per semester.

Prerequisite(s): Departmental approval.

DMS-2990 Quality Assurance and Quality Control in Sonography

01 Semester Credit

Capstone Course for Diagnostic Medical Sonography. Study of key elements for quality assurance (QA) and improvement program in ultrasound laboratory. Emphasis on operation and care of scan equipment and image storage devices, detecting image degradation, quality control tests and how to implement a quality control (QC) program. Quality assurance topics covering administrative procedures, records maintenance, personnel and fiscal management, and trends in sonography and health care systems discussed.

Lecture 01 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval.

Dietetic Technology - DIET

DIET-1000 Consumer Nutrition

02 Semester Credits

Study of physical, psychological and social importance of food to the body during life cycle as affected by environmental factors. Consumer skills concerned with labeling, shopping, menu planning and food preparation. Nutrition concerns assessed for changing behavior and developing future goals.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-0990 Language Fundamentals II.

DIET-1020 Treat Yourself Right: Weight Management

02 Semester Credits

Explores the components of determining and maintaining healthy body weight. Includes evaluation of personal diet, appropriate food selections, identification of behaviors that enhance or hinder the ability to maintain body weight, and development of goals and strategies to improve eating behaviors.

Lecture 02 hours. Laboratory 00 hours. Prerequisite(s): None.

DIET-1030 Treat Yourself Right: Diabetes Education

01 Semester Credits

Introduction to diabetes mellitus and practical suggestions for successful management of the disease. Topics include managing glucose levels through medication and diet, recipe modifications and eating out strategies. Children with diabetes will be discussed. Personal diet analysis and menu planning will be included.

Lecture 01 hour. Laboratory 00 hours. Prerequisite(s): None

DIET-1050 Sports Nutrition

03 Semester Credits

Nutrition implications for human physical and athletic performance including energy and specific nutrients. Emphasis on food selection to enhance performance and nutrition recommendations with regard to varying athletic activities. Calculation of individual energy needs based on weight and activity level. Assessment of body composition and appropriate use of ergogenic aids. Designed for coaches, athletes, and persons interested in enhancing physical performance through nutritional means.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

DIET-1060 Exercise Nutrition

01 Semester Credit

Nutrition practices that will enable the athlete to peak more effectively and to achieve optimum health in the process. Learn how athlete can keep energy levels high on a consistent basis. Special athletic nutrition topics such as weight loss, weight gain, and nutrient modulation to achieve maximum output discussed.

Lecture 01 hour. Laboratory 00 hours. Prerequisite(s): None.

DIET-1070 Weight Management Techniques for Fitness Trainers

01 Semester Credits

Fitness trainers will learn appropriate weight management techniques used to teach clients weight management strategies. Determining healthy weight, energy balance, role of exercise and popular weight loss diets will be discussed. Topics such as eating disorders and the female athlete will be included.

Lecture 01 hour. Laboratory 00 hours. Prerequisite(s): None.

DIET-1150 Nutrition for Children and Families

02 Semester Credits

Nutrition course designed for persons interested in education of small children and relationship of nutrition to total development and health of children. Nutritional requirements and methods of encouraging development of good eating habits.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ECED-1010 Introduction to Early Childhood Education: Children's Development and Programs; or modular courses ECED-101A and ECED-101B and ECED-101C and ECED-101D.

DIET-1200 Basic Nutrition

03 Semester Credits

Designed for nursing students and other health care majors to help develop awareness and knowledge of nutrition principles related to personal and patient care. Nutrient and energy requirements, weight control, and stages of life cycle. Dietary recommendations and food patterns applied to culture, diets and prevention of nutrition related disease.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-0990 Language Fundamentals II.

DIET-1220 Nutrition for Dental Hygiene

02 Semester Credits

Nutrition principles related to personal and client care. Dental hygiene students will learn how to apply sound nutrition principles to assessing, diagnosing, planning, implementing and evaluating total care of clients and how to contribute to the nutrition well-being of the client.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

DIET-1300 Principles Of Nutrition Care

04 Semester Credits

Study of major classes of nutrients, their food sources, digestion, absorption, and utilization in humans. Nutritional assessment for individuals and population groups. Nutritional implications of socioeconomic, cultural, and psychological factors affecting food selection patterns on normal health status. Nutritional recommendations and dietary guidelines for individuals and groups.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

Course Descriptions

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DIET-1310 Introduction to Dietetics

02 Semester Credits

Introduction to professional aspects and career opportunities in dietetics and nutrition. Information is provided about undergraduate programs, and competencies required of dietetic technicians/dietitians/nutritionists.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

DIET-1320 Nutrition Applications

01 Semester Credits

Apply nutrition information to variety of activities to demonstrate competency at the dietetic technology student level. The Food Guide Pyramid and Exchange System will be used to write a variety of menus: low fat, high fiber, low calorie, high protein and vegetarian. Medical terminology and abbreviations used in patient charting will also be included.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I, and DIET-1200 Basic Nutrition or concurrent enrollment.

DIET-1330 Fundamentals of Food Production

06 Semester Credits

Application of scientific principles, techniques, and methods of food production for normal and therapeutic meals. Use of food production equipment appropriate for different food service systems. Application of nutrition criteria and quality assurance standards.

Lecture 04 hours. Laboratory 04 hours.

Prerequisite(s): DIET-1300 Principles of Nutrition Care and MATH-1141 Applied Algebra and Mathematical Reasoning, or higher.

DIET-1410 Managing Food Service Operations

04 Semester Credits

Concepts and principles used to manage the food service operations of a health care facility. Includes food production principles, purchasing and cost control concepts. Human resource management principles will also be discussed.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: presently working in the food and nutrition department of a healthcare facility.

DIET-1420 Medical Nutrition Therapy for Dietary Managers

03 Semester Credits

Basic nutrition principles and medical nutrition therapy concepts. Topics include protein, lipids, carbohydrates, vitamins, minerals, nutrition assessment, documentation and developing nutrition care plans.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: presently working in the food and nutrition department of a healthcare facility.

DIET-1430 Sanitation and Safety for Certified Dietary Managers

01 Semester Credits

Sanitation and safety principles and procedures for Dietary Managers in food service establishments. Topics include food quality, food protection, chemicals, hazard analysis critical control points, crisis management and safety.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): Departmental approval: presently working in a foodservice department of a healthcare facility.

DIET-1580 Cost Control Procedures

01 Semester Credit

Study of basic food cost control procedures, financial statements and budget preparation as it relates to nutrition services.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): Eligibility for MATH-1141 Applied Algebra and Mathematical Reasoning, or higher.

DIET-1590 Purchasing Procedures

01 Semester Credit

Application of dietetic quantity purchasing skills required in supervision of institutional nutritional care delivery systems. Food specifications, procurement systems, receiving, storage and inventory control.

Lecture 01 hour. Laboratory 00 hours

Prerequisite(s): Eligibility for MATH-1141 Applied Algebra and Mathematical Reasoning, or higher.

DIET-1600 Introduction to Supervision

03 Semester Credits

Introduction to principles and concepts employed in the supervision of nutrition services delivery departments.

Emphasis on planning, organizing, communicating and decision-making skills.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): DIET-1850 Food and Nutrition Systems Practicum; DIET-1580 Cost Control Procedures, and DIET-1590 Purchasing Procedures.

DIET-1800 Special Topics in Nutrition and Dietetic Technology

1-3 Semester Credits

DIET-1820 Independent Study in Nutrition and Dietetic Technology

1-3 Semester Credits

DIET-1850 Food and Nutrition Systems Practicum

04 Semester Credits

Application of techniques in food production; equipment use and care; employee management; information flow; documentation; sanitation regulations; food service personnel recruitment, training and retention; and quality assurance in a health care facility. Activities will provide students with an opportunity to demonstrate application of knowledge acquired in previous and concurrent nutrition and diet therapy courses.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 14 hours per week.

Seminar: 02 hours per week.

Prerequisite(s): DIET-1300 Principles of Nutrition Care; or DIET-1200 Basic Nutrition and DIET-1820 Independent Study in Nutrition and Dietetic Technology; and DIET-1590 Purchasing Procedures; and HOSP-1020 Sanitation and Safety.

DIET-1940 Dietary Managers Field Experience

01 Semester Credits

Supervised work experience. Twelve clock hours per week are spent gaining practical hands-on-work experience supervising a food service department and conducting initial nutritional assessments on patients. The program manager and/or dietetic technology instructor must approve the student work experience sites. The student is required to spend a minimum of 50 hours under the direct supervision of a registered dietitian.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Field Experience: 12 clock hours per week.

Prerequisite(s): Departmental approval: presently working in the food and nutrition department of a healthcare facility

DIET-2301 Medical Nutrition Therapy I

03 Semester Credits

Orientation to clinical dietetics, basic skills required for medical nutrition care, nutritional assessment, nutrition counseling and clinical simulations in medical nutrition care planning. Basic nutrition knowledge applied to therapeutic diets.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): DIET-1300 Principles of Nutrition Care; or DIET-1200 Basic Nutrition and DIET-1820 Independent Study in Nutrition and Dietetic Technology.

DIET-2311 Medical Nutrition Therapy II

03 Semester Credits

Application of nutrition knowledge to specialized medical nutrition therapy. Moderate to high nutrition risk factors examined. Internal medical and renal disease examined.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): DIET-2301 Medical Nutrition Therapy I.

DIET-2400 Community Nutrition

03 Semester Credits

Introduction to community nutrition. Review and study of nutritional status of diverse population groups. A variety of community nutrition delivery systems examined.

Community resources, government programs, legislative and regulatory agencies described. Health assessment, health promotion strategies, nutrition education and evaluation of community, social, and health delivery systems explored.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): DIET-2301 Medical Nutrition Therapy I; and concurrent enrollment in DIET-2861 Life Cycle Nutrition Practicum.

DIET-2500 Geriatric Nutrition

03 Semester Credits

Concepts, scientific principles, techniques, and application of nutrition care management processes that focus on older persons. Discussion of aging theories, legislative issues and service delivery systems that impact upon senior adults. Physical, social, psychological and economical factors that influence the nutritional status, health and well-being of diverse cultural population groups in both institutional and community-based settings.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): DIET-2311 Medical Nutrition Therapy II; and concurrent enrollment in DIET-2861 Life Cycle Nutrition Practicum.

DIET-2800 Special Advanced Topics in Nutrition and Dietetic Technology

1-3 Semester Credits

DIET-2820 Independent Advanced Study in Nutrition and Dietetic Technology

1-3 Semester Credits

DIET-2850 Medical Nutrition Care Practicum

02 Semester Credits

Application of dietetic technician skills required in medical nutrition care of patients or residents in acute or long-term care facilities under supervision of registered dietitian.

Application and documentation of care plans and patient education. Course provides forum for discussion of practicum experience.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 7 hours per week.

Seminar: 1 hour per week.

Prerequisite(s): DIET-1850 Food and Nutrition Systems Practicum; and concurrent enrollment in DIET-2311 Medical Nutrition Therapy II.

DIET-2861 Life Cycle Nutrition Practicum

04 Semester Credits

Practicum experience under the supervision of a registered dietitian. Skills in delivery of nutrition services in community based agencies, ambulatory health settings, or social service agencies and long-term care facilities. Includes nutrition intervention, health promotion, and community based treatment techniques.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 14 hours per week.

Seminar: 2 hours per week.

Prerequisite(s): Concurrent enrollment in DIET-2400 Community Nutrition, and DIET-2500 Geriatric Nutrition.

DIET-2990 Dietetic Technology Professional Development Skills

02 Semester Credits

Capstone course in Dietetic Technology. Integration of knowledge acquired in basic, technical and non-technical areas in preparation for professional roles and life-long professional growth and development.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): DIET-2500 Geriatric Nutrition or concurrent enrollment, and DIET-2861 Life Cycle Nutrition Practicum or concurrent enrollment.

Course Descriptions

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Early Childhood Education - ECED

ECED-1010 Introduction to Early Childhood Education:

Children's Development and Programs

04 Semester Credits

Introduction to child development and philosophy of early childhood education. Emphasis on developmental characteristics of young children and philosophy of developmentally appropriate practices in a variety of child care settings. Identification of effective multicultural and inclusive early childhood learning environments. Recognition of importance of integrated curriculum as teaching strategy for young children. Introduction to role of early childhood teacher as facilitator, and the development of effective family/center relationships. Licensing and accreditation standards for child care settings. Observations in early childhood education settings. Modular courses ECED-101A, ECED-101B, ECED-101C and ECD-101D together will also meet degree requirements for this course.

Lecture 04 hours. Laboratory 00 hours. Prerequisite(s): None.

ECED-101A Children's Development and Types of Programs in Early Childhood

01 Semester Credit

Introduction to child development and philosophy of early childhood education. Overview of role of teacher as facilitator. Types of programs serving young children and families. Licensing and accreditation standards for child care settings.

Lecture 01 hour. Laboratory 00 hours. Prerequisite(s): None.

ECED-101B Theoretical Foundations of Early Childhood

01 Semester Credit

Overview of developmental theories and their contributions to early childhood. Emphasis on developmental characteristics of young children and philosophy of developmentally appropriate practices. Observation in early childhood education setting.

Lecture 01 hour. Laboratory 00 hours. Prerequisite(s): None.

ECED-101C Curriculum and Inclusion in Early Childhood

01 Semester Credit

Exploration of effective multicultural and inclusive early childhood learning environments. Recognition of importance of integrated curriculum as teaching strategy for young children. Introduction to best practices in curriculum. Development of effective family/center relationships.

Lecture 01 hour. Laboratory 00 hours. Prerequisite(s): None.

ECED-101D Early Childhood Curriculum in the Classroom

01 Semester Credit

Designing effective learning environments for young children. Planning for development of the whole child. Guidance and discipline in classroom setting. Overview of curriculum models and curriculum planning. Observation in early childhood education setting.

Lecture 01 hour. Laboratory 00 hours. Prerequisite(s): None.

ECED-1300 Early Language and Literacy Development: Integrated Curriculum

03 Semester Credits

Overview of spoken and written language development of young children. Theories and research related to language and literacy development and role of teacher in facilitating this development. Planning, implementing and evaluating developmentally appropriate multicultural materials and experiences for language discovery and learning. Selection and integration of appropriate inclusive literature in early childhood settings. Extensive practice in learning how to listen and talk with young children.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ECED-1010 Introduction to Early Childhood Education: Children's Development and Programs, or ECED-101A, ECED-101B, ECED-101C, and ECED-101D.

ECED-1310 Art in Early Childhood: Integrated Curriculum

02 Semester Credits

Exploration of planning, organizing, implementing, and evaluating a developmentally appropriate curriculum that fosters the creative and aesthetic development of young children. Preparation, organization, and maintenance of early childhood environment emphasized. Students in lecture/lab setting experience extensive variety of art media suitable for young children.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): ECED-1010 Introduction to Early Childhood Education: Children's Development and Programs, or ECED-101A, ECED-101B, ECED-101C, and ECED-101D.

ECED-1320 Cognition and Problem Solving in Early Childhood: Integrated Curriculum

02 Semester Credits

Introduction to extensive variety of curricular experiences which enhance young children's intellectual curiosity and critical thinking skills. Role of teacher in facilitating science, math, problem solving experiences, scientific methods/learning process explored. Students participate in lecture/lab setting with variety of hands on problem solving activities.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): ECED-1010 Introduction to Early Childhood Education: Children's Development and Programs, or ECED-101A, ECED-101B, ECED-101C, and ECED-101D.

ECED-1330 Music, Movement and Outdoor Environments in Early Childhood Education: Integrated Curriculum

04 Semester Credits

Exploration of appropriate methods and materials for implementation of music in early childhood curriculum. Impact of music experiences on cognitive, socio-emotional and physical/motor development examined. Includes creative self expression using movement, sounds, songs, musical instruments, selection of recordings, multicultural experiences in music and use of community resources. Development and use of outdoor environments. Integration of movement activities.

Lecture 03 hours. Laboratory 02 hours.

Prerequisite(s): ECED-1010 Introduction to Early Childhood Education: Children's Development and Programs, or ECED-101A, ECED-101B, ECED-101C, and ECED-101D.

ECED-1400 Administration and Leadership in Early Childhood

04 Semester Credits

Overview of major administrative principles, types of child care centers, legislative mandates, center policies and procedures, insurance ramifications, design of physical facilities, purchasing, budgeting, recordkeeping, and professional public relations. Programmatic formats as related to philosophical assumptions, educational theories and environmental design with respect to infants, toddlers, preschool and school age settings. Modes of staff support and management including problem solving and conflict resolution surveyed.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): ECED-1010 Introduction to Early Childhood Education: Children's Development and Programs or concurrent enrollment, or ECED-101A, ECED-101B, ECED-101C, and ECED-101D.

ECED-1540 Programming and Adjustments in Infant/Toddler Care

03 Semester Credits

Student will focus on the consolidation and integration of understandings, skills and dispositions associated with becoming effective, knowledgeable caregivers of infants and toddlers. Focus includes designing responsive learning environments, early experiences, family interactions and the assessment process in work with young children and families. Emphasis on professional development, family advocacy and ethical considerations for caregivers. Application of brain development and learning principles will be discussed.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ECED-2500 Infant/Toddler Development, Relationships, and Programs or concurrent enrollment; and departmental approval.

ECED-1550 Experiences with Infants

01 Semester Credits

Students are introduced to developmentally appropriate practices in support of infant development and growth. Developmental knowledge, temperament, establishing relationships, communication strategies, preparing and maintaining a healthy and safe environment and presenting supportive and appropriate experiences with infants will be emphasized.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): ECED-1540 Programming and Adjustments in Infant/Toddler Care or concurrent enrollment; and ECED-2500 Infant/Toddler Development, Relationships, and Programs or concurrent enrollment; concurrent enrollment in ECED-1850 Infants in Early Childhood Setting Practicum; and departmental approval.

ECED-1570 Experience with Toddlers

01 Semester Credits

Students are introduced to developmentally appropriate practices in support of toddler development. Developmental knowledge, temperament, establishing relationships, communication strategies, positive guidance, appropriate supportive experience planning and preparing and maintaining a healthy and safe environment for toddlers will be emphasized.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): ECED-1540 Programming and Adjustments in Infant/Toddler Care; and ECED-2500 Infant/Toddler Development, Relationships, and Programs or concurrent enrollment; concurrent enrollment in ECED-1870 Toddlers in Early Childhood Setting Practicum; and departmental approval.

ECED-1800 Special Topics in Early Childhood Education

1-3 Semester Credits

ECED-181P Special Topics Practicum in Early Childhood Education

02-03 Semester Credits

Practicum in special areas of early childhood education. Practicum experiences will vary. Repeatable. No more than six credits of special topics courses may be applied toward fulfilling elective and/or program graduation degree requirements.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 7-14 hours per week.

Seminar: 1 hour per week.

Prerequisite(s): Faculty counterparts determine appropriate prerequisite/corequisite for each topic.

ECED-1820 Independent Study in Early Childhood Education

1-3 Semester Credits

ECED-1850 Infants in Early Childhood Setting Practicum

02 Semester Credits

Participation in assigned early childhood settings under college supervision to develop effective skills with infants, families and staff. Discussion of practicum experiences with the integration of knowledge, skills and dispositions essential for infant caregivers will be emphasized.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 7 hours per week. Seminar: 1 hour per week

Prerequisite(s): ECED-1540 Programming and Adjustments in Infant/Toddler Care or concurrent enrollment; and ECED-2500 Infant/Toddler Development, Relationships, and Programs or concurrent enrollment; and concurrent enrollment in ECED-1550 Experiences with Infants; and departmental approval.

ECED-1860 Experience with Young Children in Early Childhood Settings

03 Semester Credits

Practice within diverse early childhood settings. Students introduced to developmentally appropriate care and education of young children within assigned setting. Preparation, organization and maintenance of an educational environment, responsive interaction and communication strategies, planning and presentation of experiences/activities for young children emphasized. Experience provided in relating to wide array of individuality among children. Cultural and familial diversity, adjustment of children to group setting and development of positive work relationships emphasized.

Lecture 01 hour. Laboratory 00 hours.

Other Required Hours: Practicum: 7 hours per week.

Seminar: 1 hour per week.

Prerequisite(s): ECED-1010 Introduction to Early Childhood Education: Children's Development and Programs, or ECED-101A, ECED-101B, ECED-101C, and ECED-101D; and ECED-1300 Early Language and Literacy Development: Integrated Curriculum, or concurrent enrollment; and departmental approval.

ECED-1870 Toddlers in Early Childhood Setting Practicum

02 Semester Credits

Participation in assigned early childhood education settings under college supervision to develop effective skills with toddlers, families, and staff. Discussion of practicum experiences and the integration of knowledge skills and dispositions critical for toddler caregivers will be emphasized.

Lecture 00 hours. Laboratory 00 hours

Other Required Hours: Practicum: 7 hours per week.

Seminar: 1 hour per week.

Prerequisite(s): ECED-1540 Programming and Adjustments in Infant/Toddler Care; and ECED-2500 Infant/Toddler Development, Relationships, and Programs or concurrent enrollment; and concurrent enrollment in ECED-1570 Experience with Toddlers; and departmental approval.

ECED-2300 Child Behavior and Guidance

03 Semester Credits

Discussion and development of a variety of guidance and classroom management strategies for young children based upon child development and anti-bias principles. Emphasis on preparing, organizing, and maintaining physically and psychologically safe environment. Establishment and maintenance of positive, collaborative family relations and supportive, professional, ethical behavior emphasized. Consequences of stress and trauma on child development and behavior explored. Skills strengthened in observing and assessing child behavior to enhance planning for growth of young children.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ECED-1010 Introduction to Early Childhood Education: Children's Development and Programs, or ECED-101A, ECED-101B, ECED-101C, and ECED-101D.

ECED-2400 Center-Family Relationships

02 Semester Credits

Develop skills to work with families in fostering optimal development and growth of children. Emphasis on interpersonal techniques that will promote positive relationships with family, child care center and community. Explore different models for family involvement. Focus on working with socially, culturally, and linguistically diverse families.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ECED-1010 Introduction to Early Childhood Education: Children's Development and Programs, or ECED-101A, ECED-101B, ECED-101C, and ECED-101D.

ECED-2500 Infant/Toddler Development, Relationships, and Programs

03 Semester Credits

Comprehensive coverage of broad areas of infant and toddler development and care with special emphasis on developmentally appropriate practices for adults who work with children ages birth to three. Major developmental milestones in infant and toddler growth; creation of safe, healthy, and supportive learning environments for children under three. Selection of materials and equipment for center or home-based care; analysis of professional standards for high quality interactions between adults and very young children.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ECED-1010 Introduction to Early Childhood Education: Children's Development and Programs or concurrent enrollment; or ECED-101A, ECED-101B, ECED-101C, and ECED-101D.

ECED-2700 Including Children with Special Needs

03 Semester Credits

[formerly ECED-1700]

Survey course focusing on children with special needs and their families. Emphasis on observation, identification, referral and adaptations of the environment for inclusion of children with disabilities. Family centered interventions, community resources, legal mandates and communication skills necessary to work with families, children, and specialists in a variety of settings included.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ECED-1010 Introduction to Early Childhood Education: Children's Development and Programs or concurrent enrollment, or ECED-101A, ECED-101B, ECED-101C, and ECED-101D.

ECED-2800 Special Advanced Topics in Early Childhood Education

1-3 Semester Credits

ECED-281P Special Advanced Topics Practicum in Early Childhood Education

02-03 Semester Credits

Practicum in special advanced areas of early childhood education. Practicum experiences will vary. Repeatable. No more than six credits of special topics courses may be applied toward fulfilling elective and/or program graduation degree requirements.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 7-14 hours per week.

Seminar: 1 hour per week.

Prerequisite(s): Faculty counterparts determine appropriate prerequisite/corequisite for each topic.

Course Descriptions

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ECED-2820 Independent Advanced Study in Early Childhood Education 1-3 Semester Credits

ECED-2870 Early Childhood Education Student Teaching Practicum

02 Semester Credits

Capstone course in early childhood education. Participation in assigned early childhood education settings under college supervision to develop effective skills with young children, families, and staff. Integration of principles of development in designing and implementing developmentally appropriate curriculum, learning experiences and professionalism. Creation of inclusive environments through respectful, sensitive interactions. Each student will spend 240 hours per semester in field experience.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 16 hours per week.

Prerequisite(s): ECED-1860 Experience with Young Children in Early Childhood Settings; concurrent enrollment in ECED-2990 Early Childhood Education Student Teaching Seminar; and departmental approval.

ECED-2990 Early Childhood Education Student Teaching Seminar

03 Semester Credits

Capstone course in early childhood education. Student will focus on consolidation and integration of knowledge, skills and dispositions associated with becoming effective, knowledgeable lead/group teacher of young children. Focus includes creating appropriate learning environments, developing professional conduct, and recognizing ethical issues. Preparation of materials to support wide variety of thinking processes and assessment processes addressed. Focus on teaching to individual styles and incorporating appropriate guidance techniques for managing groups of children in early childhood settings. Recognizing and maintaining collaborative relationships with families of different structures, social and cultural backgrounds. Recognizing opportunities for professional development.

Lecture 02 hours. Laboratory 00 hours.

Other Required Hours: Seminar: 1 hour per week.

Prerequisite(s): ECED-1860 Experience with Young Children in Early Childhood Settings; concurrent enrollment in ECED-2870 Early Childhood Education Student Teaching Practicum; and departmental approval.

Earth Science - ESCI

ESCI-1310 Physical Geography

03 Semester Credits

Introductory study of physical elements of geography. Includes earth-sun relationships, maps, atmospheric components and interactions, elements and controls of weather and climate, water resources and their distribution, vegetation associations, animal associations, ecological relationships, soil types, landforms, and plate tectonics. World distribution, causal relationships and significance to man are stressed. To fulfill laboratory science requirements, students should also enroll in related laboratory course.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

ESCI-131L Laboratory in Physical Geography

01 Semester Credit

Laboratory studies include the scientific method, map interpretation and construction, remote sensing, energy transfers, weather components, climate classification, hydrology, pedology, ecology, plant and animal geography, and plate tectonics.

Lecture 00 hours. Laboratory 03 hours.

Prerequisite(s): Concurrent enrollment in ESCI-1310 Physical Geography is highly recommended.

ESCI-1410 Physical Geology

03 Semester Credits

Topics include materials and structures of the earth; processes and agencies which change earth's crust. Mineral composition of rocks; work of gravity, water, winds, and glaciers as agents of erosion; volcanoes and earthquakes as forces which change earth's surface. To fulfill laboratory science requirements, students should also enroll in related laboratory course.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

ESCI-141H Honors Physical Geology

03 Semester Credits

Honors course in Physical Geology. Materials and structures of the earth; processes and agencies by which the earth's crust has been and is being changed; rocks and their mineral composition. Work of gravity, water, winds, and glaciers as agents of erosion; volcanoes and earthquakes as forces which change the surface of the earth. Emphasis on the effects geological events and resources have had on human civilization. To fulfill laboratory science requirements, students should also enroll in Laboratory in Physical Geology.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-101H Honors College Composition I.

ESCI-141L Laboratory in Physical Geology

01 Semester Credit

Laboratory studies include minerals, rocks, volcanoes, geologic dating, topographic maps and determination of depositional and erosional features, earthquake epicenter locations, folds and faults, interpretation of geologic maps, plate tectonic processes and boundaries, and field work to become familiar with local geology. Regularly scheduled field trips are integral part of this course.

Lecture 00 hours. Laboratory 03 hours.

Prerequisite(s): Concurrent enrollment in ESCI-1410 Physical Geology is highly recommended.

ESCI-1510 Historical Geology

03 Semester Credits

Geologic history of the earth and biota. Special emphasis on North America. Topics include plate tectonics, relative and absolute dating, rocks and their significance as indicators of environment, interpretation of geologic maps, evolution, fossilization, and major groups of fossils. To fulfill laboratory science requirement, students should also enroll in related laboratory course.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

ESCI-151L Laboratory in Historical Geology

01 Semester Credit

Laboratory studies include mineral and rock identification, significance of rock type, relative and absolute dating, stratigraphy, fossilization, fossil identification and significance, evolutionary patterns, cladistics, geology and paleontology of major geologic time divisions, and field work. Required field work is integral part of this course.

Lecture 00 hours. Laboratory 03 hours.

Prerequisite(s): Concurrent enrollment in ESCI-1510 Historical Geology is highly recommended.

ESCI-1610 Geology of the National Parks

03 Semester Credits

Studies of each park will include reasons why each area was set apart as a park, its geologic history, its present lithology and topography, and influences of lithology and topography on climatic and biotic factors (and vice versa). Ecological and geologic problems that have arisen because of presence of humans in parks or in adjacent areas also considered. To fulfill laboratory science requirement, students should also enroll in related laboratory course.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

ESCI-161L Laboratory in Geology of the National Parks

01 Semester Credit

Laboratory studies include use of topographic maps, aerial photos, remote sensing images, and geologic maps; volcanism and earthquakes, physiographic provinces; identification of igneous, sedimentary and metamorphic rocks and structures; studies of depositional and erosional features of streams, winds, glaciers, and waves; fossil identification; analyses of climatic and biological data; plate tectonics; investigations into ecological problems of many national parks. Field work required.

Lecture 00 hours. Laboratory 03 hours.

Prerequisite(s): Concurrent enrollment in ESCI-1610 Geology of the National Parks is strongly recommended.

ESCI-1800 Special Topics in Earth Science

1-3 Semester Credits

ESCI-181T Special Laboratory Topics in Earth Science

1-3 Semester Credits

Specialized three-hour lab for credit.

ESCI-2300 Introduction to the Science of Ecosystems

03 Semester Credits

Studies of lithosphere, atmosphere, hydrosphere, and biosphere incorporated into comprehensive study of ecosystems. Emphasis placed on effects of humans on these ecosystems and how altered ecosystems, in turn, affect humans. Effects of humans to be studied are primarily those that are inflicted on ecosystems because of their numbers, concentrations, standards of living, and everyday economic activities.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Completion of any course in Biology, Chemistry, Earth Science, Physical Science, or Physics; and eligibility for ENG-1010 College Composition I.

ESCI-2800 Special Advanced Topics in Earth Science

1-3 Semester Credits

ESCI-281T Special Advanced Laboratory Topics in Earth Science

1-3 Semester Credits

Specialized three-hour lab for credit.

Course Descriptions

Fall 2001 – Summer 2003 Catalog

Economics – ECON

ECON-1210 Survey of Economics

03 Semester Credits

Overview of economic principles and problems designed to provide general understanding of structure, organization and operation of our economy. Relationship of economy to our social and political welfare and its determination of the fundamental standard of living, on both macro and micro levels.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

ECON-1220 Development of the American Economy

03 Semester Credits

Evolutionary development of American economic system. Review of changes in economic and organizational structure, emphasizing application of fundamental economic explanation of change.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): None (ECON-1600 Principles of Economics recommended for students without prior knowledge of economics).

ECON-1600 Principles of Economics

01 Semester Credit

Developed for students with little or no knowledge of economics. Introduction to language, tools, methods, and topics of economics. Graphing, beginning linear equations, production possibility concepts, basic market operations and other topics fundamental to study of economics.

Lecture 01 hour. Laboratory 00 hours. Prerequisite(s): None.

ECON-1800 Special Topics in Economics

1-3 Semester Credits

ECON-1820 Independent Study in Economics

1-3 Semester Credits

ECON-2610 Principles of Macroeconomics

04 Semester Credits

[formerly ECON-1610]

Nonsequential course which introduces language, tools, methods and topics of economic analysis. Study of broad economy including measurement and analysis of economic activity, government and its roles in a market system, the banking system, monetary policy, economic growth and international economics.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): None. (BADM-1020 Introduction to Business is recommended.)

ECON-2620 Principles of Microeconomics

04 Semester Credits

[formerly ECON-1620]

Nonsequential course which introduces language, tools, methods and topics of economic analysis. Study of detailed economy at the firm and industry level with emphasis on market theory (supply/demand), production, and price and output determination as they vary by market structure, and includes current problems and policy concerns.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): None. (BADM-1020 Introduction to Business is recommended.)

Education – EDUC

EDUC-1010 School and Society

03 Semester Credits

Designed to introduce student to broad and complex field of public education. Emphasis on personal and professional characteristics required for successful teaching.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

EDUC-2010 Approaches to Teaching

03 Semester Credits

General strategies and skills of instruction with emphasis on curriculum design, instructional planning, learner diversity, decision making, interpersonal communication, questioning, and classroom management.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): EDUC-1010 School and Society.

EDUC-2050 Human Diversity in Education

03 Semester Credits

Relationships between variety of socio-cultural patterns of students, communities, and abilities to instruct.

Development of strategies for increasing educational potential of all students.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): EDUC-1010 School and Society; PSY-2030

Educational Psychology, or concurrent enrollment; and concurrent enrollment in EDUC-2850 Sophomore Practicum; or departmental approval.

EDUC-2850 Sophomore Practicum

02 Semester Credits

Participation of students in field experience at assigned sites under college supervision to develop, implement, and evaluate practical skills in teaching.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 7 hours per week.

Seminar: 1 hour per week.

Prerequisite(s): EDUC-1010 School and Society; PSY-2030

Educational Psychology, or concurrent enrollment; and concurrent enrollment in EDUC-2050 Human Diversity in Education; or departmental approval.

Course Descriptions

Fall 2001 – Summer 2003 Catalog

Electrical/Electronic Engineering Technology - EET

EET-1000 Introduction to PC Maintenance

02 Semester Credits

Overview of hardware and software concepts to isolate common hardware and software problems associated with personal computer systems. Includes methods to correct common problems and aid in decisions of repairing or replacing hardware parts.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): IT-1010 Introduction to Microcomputer Applications, and IT-1040 Microcomputer Operating Systems or concurrent enrollment; or departmental approval.

EET-1010 DOS for Technicians

02 Semester Credits

Basics of MS-DOS, basic operating system for IBM and compatibles in order to maintain, troubleshoot, repair and upgrade microcomputer systems and peripheral devices.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): IT-1010 Introduction to Microcomputer Applications, and IT-1040 Microcomputer Operating Systems or concurrent enrollment; or departmental approval.

EET-1020 Basic Software Troubleshooting

02 Semester Credits

Provides knowledge of troubleshooting and problem solving techniques for DOS and Windows operating systems. Includes preventative maintenance concepts and steps.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): EET-1010 DOS for Technicians or concurrent enrollment.

EET-1030 Installing and Configuring Operating Systems

02 Semester Credits

Introduction to installation and configuration of Windows operating systems. Included are manipulation of RAM, cache and virtual memory to maximize Windows speed, editing initialization files to take advantage of optional settings, and utilizing DOS within a Windows environment.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): EET-1000 Introduction to PC Maintenance or concurrent enrollment.

EET-1040 On-line Communications

01 Semester Credit

Covers computer communications via telephone lines, installation and troubleshooting modems, and installation of telecommunication software.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): EET-1020 Basic Software Troubleshooting or concurrent enrollment.

EET-1050 PC Systems Servicing and Troubleshooting

03 Semester Credits

Introduction to PC systems servicing and troubleshooting, including advanced hardware and software troubleshooting techniques.

Lecture 01 hour. Laboratory 04 hours.

Prerequisite(s): EET-1020 Basic Software Troubleshooting or concurrent enrollment.

EET-1060 PC Networking

02 Semester Credits

Exploration of PC networking, including network topologies (star, bus, ring, etc.), different network communication mediums (fiber, shielded twisted pair, etc.) and Local Area Network (LAN) to Wide Area Network (WAN) structures.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): ITNT-2300 Network Fundamentals, and EET-1050 PC Systems Servicing and Troubleshooting or concurrent enrollment.

EET-1070 PC Laser Printer Installation and Repair

01 Semester Credit

Introduction to PC laser printers, including software and hardware aspects of installation and maintenance of laser printers.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): EET-1050 PC Systems Servicing and Troubleshooting or concurrent enrollment.

EET-1080 Service Operations and Communications Procedures

01 Semester Credit

Techniques and skills necessary to interface with customers during the process of microcomputer service and repair.

Lecture 01 hour. Laboratory 00 hours. Prerequisite(s): None.

EET-1090 Test Preparation for A+ Certification

01 Semester Credit

Introduction to A+ test preparation, including a curriculum review covering key A+ test areas.

A+ has become national standard certification for PC repair and troubleshooting.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): EET-1050 PC Systems Servicing and Troubleshooting or concurrent enrollment, or departmental approval.

EET-1110 DC Electric Circuits

03 Semester Credits

Direct-current (DC) circuit fundamentals involving resistance, capacitance, and inductance. Emphasis on conventional current flow, electrical quantities and units of measurement, sources of EMF, Ohm's Law, Kirchhoff's Laws, Mesh and Nodal circuit analysis, Superposition, Thevenin's and Norton's Theorems, RC and RL time constants, and magnetic circuits as applied to series, parallel, and series-parallel circuit networks. Computer simulation and practical laboratory experience using electrical measuring instrumentation to observe and verify theories and concepts presented during lectures.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): Eligibility for MATH-0960 Beginning Algebra II; or MATH-0980 Intensified Beginning Algebra Mathematics I or concurrent enrollment.

EET-1130 Basic Audio Electronics

03 Semester Credits

Basic DC and AC circuits, amplifier theory, audio distortion, electronic test equipment operation and soldering techniques. Designed for non-EET majors.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): MATH-1060 Survey of Mathematics or higher level math, or departmental approval.

EET-1210 AC Electric Circuits

03 Semester Credits

Fundamentals of alternating current (AC) circuits involving resistance, capacitance, and inductance. Sinusoidal voltage, current power, phase, resonance, and frequency response of basic circuit elements in series, parallel, and series-parallel connections as analyzed using Kirchhoff's laws, Mesh, Nodal, and Bridge Network analysis, Delta- Wye conversions, Superposition, Thevenin's, Norton's and Maximum Power Transfer theorems. Decibels, filters, Bode plots, Fourier series, polyphase transformers, and system analysis studied. Computer simulation and practical laboratory experience using AC instrumentation for measuring series-parallel networks to observe and verify theory and concepts presented during lectures.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): EET-1110 DC Electric Circuits; and MATH-1160 Technical Mathematics I, or concurrent enrollment.

EET-1220 Circuits and Electronics

03 Semester Credits

Direct-current (DC) and alternating-current (AC) circuit fundamentals involving resistance, capacitance, and inductance. Electrical quantities and units of measurements: Ohm's law, Kirchoff's laws, network analysis and network theorems presented as applied to series, parallel, and series/parallel DC and AC circuits. Topics include RC and RL time constants, phasors, operators, impedance, admittance, and power triangles, power factor correction, polyphase systems, and transformers. Computer simulation and practical laboratory experience using electrical measuring instrumentation to observe and verify theories and concepts presented during lectures.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): MATH-1360 Technical Mathematics II, or concurrent enrollment.

EET-1230 Telecommunications I

03 Semester Credits

Introductory course in analog communications systems and circuits. Introduces concept of complex waveforms and analysis of complex waveforms for frequency content. Presents fundamentals of transmission and reception of amplitude, single sideband, frequency and phase modulated signals. Systems and circuits for television broadcast and reception. Overview of broadcast antennas and antenna feed systems.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): EET-1210 AC Electric Circuits, or concurrent enrollment.

EET-1240 Digital Circuits/Microprocessors I

03 Semester Credits

Introduction to binary number system and to all logic gates used in digital circuits. Boolean algebra, logic gate equivalents and Karnaugh maps are used to simplify Boolean logic equations and various logic circuits.

Decoders, multiplexers, latches, flip-flops, counters, and shift registers studied in detail. Laboratory experiments to reinforce lecture material used throughout course.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): EET-1210 AC Electric Circuits, or concurrent enrollment.

EET-1300 Cisco I: LAN Design

02 Semester Credits

Decision-making and problem-solving techniques in applying science, mathematics, communications, and social studies concepts to solve networking problems. Topics include networking, network terminology and protocols, network standards, LANs, WANs, OSI models, internetworking, media, protocol utilities, cabling, cabling tools, routers, router programming, star topology, and IP addressing. Other topics include proper care, maintenance, use of network software, tools, equipment, and safety, building and environmental codes and regulations. Extensive hands-on demonstrations and practice.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): IT-1020 Information Technology Concepts or current enrollment, and IT-1040 Microcomputer Operating Systems or concurrent enrollment, or departmental approval: equivalent knowledge or skills.

EET-1310 Cisco II: Basic Router Configuration

02 Semester Credits

Ethernet, Token Ring, distance vectors, dynamic routing link-state, routing user interfaces, router modes, Fiber Distributed Data Interface (FDDI), dynamic routing, routing, Transmission Control Protocol/Internet Protocol (TCP/IP), Addressing Protocol, and network administrator's role/function are discussed. Extensive hands-on demonstrations and practice.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): EET-1300 Cisco I: LAN Design.

EET-1800 Special Topics in Electrical/Electronic Engineering Technology

1-3 Semester Credits

EET-2110 Industrial Electronics I

03 Semester Credits

Construction, theory of operation, performance characteristics and application of DC motors, DC auxiliary devices, AC single phase transformers, AC three phase transformers, AC three phase power generation, AC power distribution, AC synchronous motors, AC three phase induction motors, AC single phase motors, AC stepper motors, and AC special motors.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): MATH-1360 Technical Mathematics II, and EET-1210 AC Electric Circuits.

EET-2120 Electronics I

03 Semester Credits

Introductory course to most common solid-state devices used in electronic circuits: the diode, bipolar transistor, field effect transistor, and uni-junction transistor. Graphical and analytical DC and AC analysis of various electronic circuits used. Computer circuit analysis program Pspice used to predict DC voltages and currents and frequency response of different circuits. Laboratory experiments reinforce topics studied in lecture.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): EET-1210 AC Electric Circuits, and MATH-1360 Technical Mathematics II.

EET-2130 Telecommunications II

04 Semester Credits

Continuation of telecommunications course sequence; introductory course in Data Communications and Network Theory. Topics include systems and techniques for digital and data communications, data communications protocol, digital transmission, time and frequency division multiplexing, as well as introductory material on communications networks.

Lecture 03 hours. Laboratory 02 hours.

Prerequisite(s): EET-1230 Telecommunications I.

EET-2140 Digital Circuits/Microprocessors II

03 Semester Credits

Introduction to microprocessor theory and function. Topics include programming concepts and program development, bus configuration, memory, timing relationships, data input and output techniques, interrupt handling and introduction to support chips.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): EET-1240 Digital Circuits/Microprocessors I.

EET-2220 Electronics II

03 Semester Credits

Continuation of electronic circuits. Includes study of difference amplifier used in operational amplifiers. Additional topics include various uses of operational amplifier, voltage comparator, digital-to-analog converter (DAC), analog-to-digital converter (ADC), active filter circuits, oscillators and sample hold circuits.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): EET-2120 Electronics I.

EET-2230 Telecommunications III

03 Semester Credits

Final course in electronic telecommunication series. Overview of fiber optic, microwave and broadband cable telecommunications media systems.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): EET-2130 Telecommunications II.

EET-2241 Microprocessors, Hardware Interface with C Programming

03 Semester Credits

Concluding course in the Digital/Microprocessors series. Focuses on application of microprocessor and related support chips, software and hardware interfacing with various input/output devices, and related software topics. Stresses control and measurement applications using the C programming language.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): EET-2140 Digital Circuits/Microprocessors II.

EET-2250 Industrial Electronics II

03 Semester Credits

Overview of common industrial power control circuits and devices including thyristors, unijunction transistors, relays and transient suppression devices. Introduction to relay logic and operation, and programming of programmable controller.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): EET-2220 Electronics II, or concurrent enrollment.

EET-2290 Electrical Design Project

02 Semester Credits

Capstone course for Electrical-Electronic Engineering basic program. Designed to allow students opportunity to demonstrate and apply capabilities and skills acquired during previous engineering technology course work. Students will choose approved electronic project compatible with their interest and background. Project will include research, documentation, construction, and testing and conclude with a report and presentation of results.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): EET-2220 Electronics II, or concurrent enrollment.

EET-2300 Cisco III: LAN Management

02 Semester Credits

Extend the student's knowledge and practical experience with switches, access control lists, Local Area networks (LAN's) and Virtual Local Area Networks (VLAN's) design, configuration and maintenance. Students develop practical experience in skills related to configuring LAN's, WAN's, Novell networks, Internet work packet Exchange (IPX) routing and Interior Gateway Routing Protocol (IGRP) protocols and network troubleshooting. Extensive hands-on demonstrations and practice.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): EET-1310 Cisco II: Basic Router Configuration.

EET-2310 Cisco IV: WAN Management

03 Semester Credits

Extend knowledge and practical experience Wide Area Networks (WAN's), Integrated Services Data Networks (ISDN), Point-to-Point Protocols (PPP), and Frame-Relay design, configuration and maintenance. Experience in configuring WAN's, ISDN, PPP, Frame-Relay protocols, Internet Gateway Routing Protocol (IGRP), Novel IPX, access control lists and network troubleshooting. Extensive hands-on demonstrations and practice.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): EET-2300 Cisco III: LAN Management.

EET-2400 Biomedical Instrumentation I

03 Semester Credits

Students introduced to biomedical program and to organization of hospital and/or health facilities. Study of anatomy and physiology as pertaining to safety checking, servicing and maintaining biomedical electronic equipment (such as ECG, EEG, electro-surgery units, defibrillators, infusion pumps, patient monitors, and other monitoring and diagnostic equipment). Hospital electrical safety and interaction with nursing staff and physicians continuously emphasized. Laboratory experiments on centrifuges, infusion pumps and electrosurgery units.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): EET-2120 Electronics I, or concurrent enrollment.

EET-2410 Biomedical Instrumentation II

03 Semester Credits

Continuation of biomedical program. Includes study of general hospital equipment such as EKG machines, defibrillators, automated medtesters, patient monitors and ventilator. Emphasis on using various technical service manuals to repair these and other biomedical equipment. Safety checks performed on all biomedical equipment used in laboratory.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): EET-2400 Biomedical Instrumentation I; and EET-2220 Electronics II, or concurrent enrollment.

EET-2490 Biomedical Design Project

02 Semester Credits

Capstone course for Biomedical Engineering program. Designed to allow student opportunity to demonstrate and apply capabilities and skills acquired during their previous engineering technology course work. Students will choose approved biomedical project compatible with their interest and background. Project will include research, documentation, construction, and testing and conclude with a report and presentation of results.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): EET-2220 Electronics II, or concurrent enrollment; and EET-2410 Biomedical Instrumentation II, or concurrent enrollment.

EET-2500 Instrumentation and Control

03 Semester Credits

Concepts and practice in measurement and control of mechanical process variables in industry. Introduction to methods of instrumentation, characteristics of instruments, sensors, data acquisition and presentation, measurement and analysis of basic dimensions, force, motion, pressure, temperature, fluid flow and fluid viscosity.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): PHYS-1220 College Physics II; and EET-1220 Circuits and Electronics, or EET-2120 Electronics I.

EET-2520 Programmable Logic Controllers

03 Semester Credits

Introduction to programmable logic controller terminology, architecture, input/output modules and memory. Relay schematics and ladder logic diagrams and programming of programmable logic controllers are covered and reinforced in practical laboratory experiments. Sensing devices as limit switches, on/off electrical devices, temperature switches, timing and counting devices as well as event-driven and time-driven sequences are also included.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): EET-1220 Circuits and Electronics or concurrent enrollment; or EET-1240 Digital Circuits/Microprocessors I.

EET-2590 Telecommunications Design Project

02 Semester Credits

Capstone course for Telecommunications Engineering program. Designed to allow students opportunity to demonstrate and apply capabilities and skills acquired during previous engineering technology course work. Students will choose approved telecommunications project compatible with their interest and background. Project will include research, documentation, construction, and testing and conclude with a report and presentation of results.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): EET-2220 Electronics II, or concurrent enrollment; and EET-2230 Telecommunications III, or concurrent enrollment.

EET-2800 Special Topics in Electrical/Electronic Engineering Technology

1-3 Semester Credits

EET-2830 Cooperative Field Experience

1-3 Semester Credits

EET-2900 Clinical Internship

04 Semester Credits

Provides student with on-the-job experience in biomedical equipment field. Students supervised by qualified biomedical equipment technicians, assisting and repairing various biomedical equipment.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Directed practice: 360 hours per semester.

Prerequisite(s): EET-2410 Biomedical Instruments II, EET-2220 Electronics II, and EET-2140 Digital Circuits/Microprocessors II.

Course Descriptions

Fall 2001 – Summer 2003 Catalog

Emergency Medical Technician - EMT

EMT-1301 Emergency Medical Technician – Basic

07 Semester Credits

Comprehensive study of basic life support skills of emergency medical technician-basic using US DOT National Standard EMT-Basic Curriculum (1994 or later) including recognition of nature and seriousness of patient's condition or extent of injuries; and assessing requirements of emergency care, lifting, moving, handling and transporting patients as part of prehospital emergency care system. Completion of American Heart Association Cardiopulmonary Resuscitation. Off site lab required.

Lecture 05 hours. Laboratory 03 hours.

Other Required Hours: Offsite lab: 02 hours per week.

Prerequisite(s): Departmental approval: admission to course.

Applications accepted through Health Careers Enrollment Center until two weeks before class start.

EMT-1310 Cardiopulmonary Resuscitation

01 Semester Credit

Introduction to respiratory and circulatory emergencies in adults, children and infants. Instruction and treatment methods to meet American Heart Association or American Red Cross standards for CPR.

Lecture 01 hour. Laboratory 00 hours. Prerequisite(s): None.

EMT-1320 Heavy Rescue

02 Semester Credits

Techniques of heavy rescue, safe management of equipment used in heavy rescue, entrapment and patient extrication.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): Departmental approval: certified EMT-B; emergency workers must be in good health or have physician's verification; must be able to lift 75 pounds.

EMT-1330 Defensive Driving – EMT

01 Semester Credit

Principles and practices of defensive driving related to emergency rescue vehicles including laws, conditions of accidents and methods of avoiding accidents.

Lecture 00 hours. Laboratory 02 hours.

Prerequisite(s): Departmental approval: admission to program, or certified EMT-B, or working with safety forces; must have valid Ohio driver's license.

EMT-1340 Emergency Medical Services Communications

01 Semester Credit

Theoretical and technical knowledge required to operationally perform functions of emergency medical dispatcher. Radio and telephone techniques, dispatching, triage and prioritization procedures and pre-arrival medical instructions. Radio equipment and FCC regulations governing use of VHF and UHF radio frequencies.

Lecture 00 hours. Laboratory 02 hours.

Prerequisite(s): EMT-1301 Emergency Medical Technician-Basic, or departmental approval.

EMT-1800 Special Topics in EMT

1-3 Semester Credits

EMT-181S Special Laboratory Topics in EMT

1-3 Semester Credits

Specialized two-hour lab for credit.

EMT-181T Special Laboratory Topics in EMT

1-3 Semester Credits

Specialized three-hour lab for credit.

EMT-2000 Instructional Techniques – EMT

02 Semester Credits

Instructional training methods necessary to impart clinical competencies to students. Develops skill in instructional design, delivery and evaluation.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): Departmental approval: admission to program or currently certified EMT-B.

EMT-2010 Emergency Medical Technology Management

02 Semester Credits

Capstone course in Emergency Medical Technology.

Diagnostic categories of emergencies, emergency service categorization, hospital care capabilities, patient transport protocol and transfer agreements. Area-wide planning in preparation for disaster and procedures for establishing a training system for emergency medical personnel.

Exploration of emergency medical service planning and operation including new trends and managed care.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): Departmental approval: certified EMT-B, EMT-I or EMT-P; emergency service administrators will be considered.

EMT-2300 EMT--Intermediate

04 Semester Credits

Principles and practices of emergency medical technicians at intermediate level, including patient assessment, airway management, shock, cardiac management, roles and responsibilities.

Lecture 02 hours. Laboratory 03 hours.

Other Required Hours: Off-campus field experience: 45 hours/semester.

Prerequisite(s): Departmental approval: current State or National registry, EMT-B certification.

EMT-2310 Paramedic Theory I

10 Semester Credits

Principles and practices of emergency medical technician – paramedic based on the 1999 or later DOT National Standard Paramedic Curriculum including roles and responsibilities, MES systems, medical/legal considerations, EMS communications, stress management, shock, pharmacology, trauma, airway management and medical emergencies.

Lecture 07 hours. Laboratory 06 hours.

Other Required Hours: Field Experience: 12 hours per week.

Prerequisite(s): BIO-1050 Human Biology, and Ohio certified EMT-B, and departmental approval: enrollment application through Health Careers Enrollment Center six weeks before class start.

Course Descriptions

Fall 2001 – Summer 2003 Catalog

EMT-2510 Paramedic Theory for RNs and Allied Health Professionals

06 Semester Credits

Principles and practices of emergency medical technicians at the paramedic level including focus on prehospital environment, preparatory, trauma, burns, medical emergencies, OB/GYN – neonatal and behavioral emergencies for registered nurse or allied health professional with experience in care of ill or injured patients. Course follows objectives outlined by the U.S. National Standard Paramedic Training curriculum and consists of specific education in classroom, practical skills lab, and directed experience on an ALS squad. Course substitutes for the EMT courses in Paramedic Theory I and II. Licensed RN's and specific allied health professionals are given credit for documented past health care education and experience. Successful completion of the course will qualify the student to sit for the National Registry Paramedic written and practical exams.

Lecture 04 hours. Laboratory 02 hours.

Other Required Hours: Directed practice: 75 hours per semester.

Prerequisite(s): Departmental approval: RN licensure/MD/DO, PA licensure, certified Ohio EMT-B, current BLS-CPR card, current ACLS card, current PALS card.

EMT-2320 Paramedic Theory II

10 Semester Credits

Principles and practices of emergency medical technician – paramedic bases on the 1999 or later DOT National Standard Paramedic Curriculum including anatomy and physiology of cardiovascular system, assessment of cardiac patient, EKG interpretation, treatment modalities, pharmacology, defibrillation, and advanced cardiac life support. Management of geriatric, pediatric, neonatal, and behavioral emergencies including assessment and treatment assessment and treatment of burns, environmental injuries, and medical emergencies. Further study of hazardous materials, rescue awareness and crime scene awareness.

Lecture 07 hours. Laboratory 06 hours.

Other Required Hours: Field Experience: 12 hours per week.

Prerequisite(s): EMT-2310 Paramedic Theory I, and departmental approval.

EMT-2740 Advanced Paramedic Techniques

04 Semester Credits

Designed to train paramedics to become critical care transport specialists and to acquire advanced skills in treatment and care of critically ill patient during transport. Pathophysiology of serious diseases, trauma and advanced techniques of management, legal issues, transport complications, physiologic alterations during air transport and infection control procedures.

Lecture 02 hours. Laboratory 03 hours.

Other Required Hours: Directed practice: 5 hrs/week.

Prerequisite(s): Departmental approval: current Ohio National registry EMT-P certification, BCLS provider, ACLS provider, PALS provider and BTLIS provider/PHTLS. Other health care professionals considered with medical director approval.

ENGLISH - ENG

ENG-0800 Developmental Special Topics in English

1-3 Semester Credits

Study of selected developmental topics of current issues in English. Provides student an opportunity to explore various topics in greater detail (see Credit Schedule of classes for current offerings). Repeatable for different topics. May not be applied toward elective and/or program graduation degree requirements.

Lecture 01-03 hours. Laboratory 00 hours.

Prerequisite(s): Faculty counterparts determine appropriate prerequisite/corequisite for each topic.

ENG-0960 Reading Improvement

03 Semester Credits

Designed for students who need to improve basic comprehension. Emphasis in literal, inferential, and critical comprehension and vocabulary development.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

ENG-0980 Language Fundamentals I

06 Semester Credits

Emphasis on mastery of language fundamentals.

Lecture 06 hours. Laboratory 00 hours.

Prerequisite(s): Placement by department: appropriate placement test score.

ENG-0990 Language Fundamentals II

06 Semester Credits

Emphasis on basic essay writing skills, reading, study and test-taking skills.

Lecture 06 hours. Laboratory 00 hours.

Prerequisite(s): ENG-0980 Language Fundamentals I, or placement by department.

ENG-1000 Using Grammar Effectively

03 Semester credit

Development of clear, effective English sentences by studying form and function of words, phrases, and clauses. Note: Class is not intended for transfer.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-0990 Language Fundamentals II, or departmental approval.

ENG-1010 College Composition I

03 Semester Credits

Study of and practice in principles of good writing.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Appropriate placement test score; or ENG-0990 Language Fundamentals II; or departmental approval; or ESL-1320 Reading and Writing III.

ENG-101H Honors College Composition I

03 Semester Credits

Study of and practice in principles of good writing at a level exceeding requirements and objectives of ENG-1010; course reading material and most writing assignments thematically organized. Concurrent enrollment in English honors independent study course is available to students who wish to pursue guided independent scholarship. Note: This course meets the ENG-1010 graduation requirements.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Appropriate placement test score, or departmental approval.

Course Descriptions

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ENG-1020 College Composition II

03 Semester Credits

Study of and practice in principles of good writing with emphasis on analytical writing, research paper, reading and interpretation of selected literary works.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ENG-1010 College Composition I, or ENG-101H Honors.

ENG-102H Honors College Composition II

03 Semester Credits

Study of and practice in principles of good writing with emphasis on analytical writing, research, reading and interpretation of selected literary works, at a level exceeding requirements and objectives of English 1020; course reading material and most writing assignments thematically organized. Concurrent enrollment in English honors independent study course is available to students who wish to pursue guided independent scholarship. Note: This course meets the ENG-1020 graduation requirements.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ENG-1010 College Composition I, or ENG-101H Honors; and departmental approval.

ENG-1070 Advanced Reading Improvement

03 Semester Credits

Instruction in art and skills of efficient reading with emphasis on understanding and critical analysis of college-level material. Strategies to increase comprehension, promote vocabulary development, and improve ability to study and retain text-related information. Application to professional and business-related reading when adaptable.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I, or placement by department.

ENG-2010 Creative Writing

03 Semester Credits

Practice in imaginative writing; exploration of creative potential. Emphasis on sources of creativity and forms of expression in selected literary genres.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ENG-1020 College Composition II, or ENG-102H Honors, or departmental approval.

ENG-2150 Technical Writing

03 Semester Credits

Technical communication process; roles within complex organizations, and how those roles affect communication of technical information. Emphasis on writing reports effectively to meet needs of various readers within an organization.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ENG-1010 College Composition I, or ENG-101H Honors, or departmental approval.

ENG-2310 American Literature I

03 Semester Credits

Survey of major works of American prose, poetry, and drama from early period through 1860.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ENG-1020 College Composition II, or ENG-102H Honors, or departmental approval.

ENG-2320 American Literature II

03 Semester Credits

Survey of major works of American prose, poetry, and drama from 1861 to present.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ENG-1020 College Composition II, or ENG-102H Honors, or departmental approval.

ENG-2350 British Literature I

03 Semester Credits

Survey of major works of British prose, poetry, and drama from early period to 1785.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ENG-1020 College Composition II, or ENG-102H Honors, or departmental approval.

ENG-2360 British Literature II

03 Semester Credits

Survey of major works of British prose, poetry, and drama from 1785 to present.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ENG-1020 College Composition II, or ENG-102H Honors, or departmental approval.

ENG-2410 Introduction to Literature: Poetry

03 Semester Credits

Critical analysis of selected works of poetry, designed to develop understanding and appreciation of poem and dramatic text as literary forms.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ENG-1020 College Composition II, or ENG-102H Honors, or departmental approval.

ENG-2420 Introduction to Literature: Fiction

03 Semester Credits

Critical analysis of selected works of fiction, designed to develop understanding and appreciation of short story and novel as literary forms.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ENG-1020 College Composition II, or ENG-102H Honors, or departmental approval.

ENG-2430 Introduction to Literature: Drama

03 Semester Credits

Critical analysis of selected dramatic works designed to develop understanding and appreciation of drama as a literary form.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ENG-1020 College Composition II, or ENG-102H Honors, or departmental approval.

ENG-2510 African-American Literature I

03 Semester Credits

Study of major works of African-Americans from colonial period to 1950.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ENG-1020 College Composition II, or ENG-102H Honors, or departmental approval.

ENG-2520 African-American Literature II

03 Semester Credits

Study of major works of African-Americans from 1950 to present.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ENG-1020 College Composition II, or ENG-102H Honors, or departmental approval.

Course Descriptions

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ENG-2600 Survey of Juvenile Fiction

03 Semester Credits

Fiction survey designed to cover various works frequently read by children and adolescents.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ENG-1020 College Composition II, or ENG-102H Honors, or departmental approval.

ENG-2710 Shakespeare

03 Semester Credits

Critical analysis of selected works of Shakespeare.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ENG-1020 College Composition II, or ENG-102H Honors, or departmental approval.

ENG-2800 Special Topics in Literature

1-3 Semester Credits

ENG-2820 Independent Advanced Research in Literature

1-3 Semester Credits

ENGLISH AS A SECOND LANGUAGE - ESL (formerly included in ENGLISH - ENG)

ESL-1020 English as a Second Language: Basic Reading and Writing

06 Semester Credits

English for non-native speakers. Practice in reading beginning material. Practice in writing short answers, controlled compositions, and responses to picture stories.

Lecture 06 hours. Laboratory 00 hours.

Prerequisite(s): Concurrent enrollment in ESL-1030 ESL-Basic Grammar for Communication, or departmental approval; and placement by ESL assessment exam, or departmental approval.

ESL-1030 English as a Second Language: Basic Grammar for Communication

06 Semester Credits

English for non-native speakers. Understanding of basic grammatical forms and functions of American English and practice in producing them. Focus on form, meaning and use in oral communication.

Lecture 06 hours. Laboratory 00 hours.

Prerequisite(s): Concurrent enrollment in ESL-1020 ESL-Basic Reading and Writing, or departmental approval; and placement by ESL assessment exam, or departmental approval.

ESL-1110 English as a Second Language: Grammar for Communication I

04 Semester Credits

English for non-native speakers. Understanding of basic grammar structures of American English and practice in producing them. Focus on form, meaning and use in oral and written communication.

Lecture 03 hours. Laboratory 02 hours.

Prerequisite(s): Placement by ESL assessment exam, or departmental approval; and concurrent enrollment in ESL-1120 ESL-Reading and Writing I, and ESL-1130 Speaking ESL I; or departmental approval.

ESL-1120 English as a Second Language: Reading and Writing I

05 Semester Credits

English for non-native speakers. Practice in reading high beginning texts. Practice in writing narratives and personal expression paragraphs using basic sentence patterns and correct spelling and punctuation.

Lecture 05 hours. Laboratory 00 hours.

Prerequisite(s): Placement by ESL assessment exam or departmental approval; and concurrent enrollment in ESL-1110 ESL--Grammar for Communication I, and ESL-1130 Speaking ESL I; or departmental approval.

ESL-1130 Speaking English as a Second Language I

03 Semester Credits

Spoken English for non-native speakers. Practice in speaking and listening to American English. Recognition and production of sounds, rhythm and intonation patterns at a basic level. Development of competence and confidence in listening comprehension and conversational skills within supportive structured situations.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): Placement by ESL assessment, or departmental approval; and concurrent enrollment in ESL-1110 ESL--Grammar for Communication I, and ESL-1120 ESL-Reading and Writing I; or departmental approval.

ESL-1210 English as a Second Language: Grammar for Communication II

04 Semester Credits

English for non-native speakers. Understanding of intermediate grammar structures of American English and practice in producing them. Focus on form, meaning and use in oral and written communication.

Lecture 03 hours. Laboratory 02 hours.

Prerequisite(s): ESL-1110 ESL-Grammar for Communication I, or placement by ESL assessment exam, or departmental approval; and concurrent enrollment in ESL-1220 ESL-Reading and Writing II, and ESL-1230 Speaking ESL II; or departmental approval.

ESL-1220 English as a Second Language: Reading and Writing II

05 Semester Credits

English for non-native speakers. Practice in reading intermediate texts. Practice in writing personal essays and responses to readings, using intermediate sentence patterns and correct spelling and punctuation.

Lecture 05 hours. Laboratory 00 hours.

Prerequisite(s): ESL-1120 ESL--Reading and Writing I, or placement by ESL assessment exam, or departmental approval; and concurrent enrollment in ESL-1210 ESL-Grammar for Communication II, and ESL-1230 Speaking ESL II; or departmental approval.

Course Descriptions

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ESL-1230 Speaking English as a Second Language II

03 Semester Credits

Spoken English for non-native speakers. Practice in speaking and listening to American English. Recognition and production of sounds, rhythm and intonation patterns at intermediate level. Development of competence and confidence in listening comprehension and conversational skills within supportive, structured and non-structured situations.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): ESL-1130 Speaking ESL I, or placement by ESL assessment exam, or departmental approval; and concurrent enrollment in ESL-1210 ESL-Grammar for Communication II, and ESL-1220 ESL-Reading and Writing II; or departmental approval.

ESL-1310 English as a Second Language: Grammar for Communication III

04 Semester Credits

English for non-native speakers. Understanding of advanced grammar structures of American English and practice in producing them. Focus on form, meaning and use in oral and written communication.

Lecture 03 hours. Laboratory 02 hours.

Prerequisite(s): ESL-1210 ESL-Grammar for Communication II, or placement by ESL assessment exam, or departmental approval; and concurrent enrollment in ESL-1320 ESL-Reading and Writing III; or departmental approval. (Concurrent enrollment in ESL-1330 Speaking ESL III recommended.)

ESL-1320 English as a Second Language: Reading and Writing III

05 Semester Credits

English for non-native speakers. Practice in reading advanced texts and literary material. Practice in writing interpretive essays and personal responses to readings, using advanced sentence patterns and correct spelling and punctuation.

Lecture 05 hours. Laboratory 00 hours.

Prerequisite(s): ESL-1220 ESL-Reading and Writing II, or placement by ESL assessment exam, or departmental approval; and concurrent enrollment in ESL-1310 ESL-Grammar for Communication III; or departmental approval. (Concurrent enrollment in ESL-1330 Speaking ESL III recommended.)

ESL-1330 Speaking English as a Second Language III

03 Semester Credits

Spoken English for non-native speakers. Practice in speaking and listening to American English. Recognition and production of sounds, rhythm and intonation patterns at advanced level. Development of critical listening and speaking skills for academic, professional, and social situations.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): ESL-1230 Speaking ESL II, or placement by ESL assessment exam, or departmental approval. (Concurrent enrollment in ESL-1310 ESL-Grammar for Communication III and ESL-1320 ESL-Reading and Writing III recommended.)

ESL-1800 Special Topics in English as a Second Language

1-3 Semester Credits

Environmental Health and Safety Technology – EHST

EHST-1301 Introduction to Environmental Technology

03 Semester Credits

Comprehensive overview of topics relating to the environmental technology field. Concentration on developing students' awareness of the many facets of science, technology and public policy that are involved in environmental management.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

EHST-1310 Introduction to Environmental Law

04 Semester Credits

Study of U.S. Environmental Protection Agency (EPA) laws and regulations which protect our environment and health. Students learn steps in managing hazardous wastes including production, treatment, transportation, and disposal of hazardous materials. Involves reading, interpreting, and summarizing sections from the Code of Federal Regulations and The United States Code. Coverage includes: National Environmental Policy Act, Occupational Safety and Health Act, Clean Air Act, Clean Water Act, and Safe Drinking Water Act, Resource Conservation and Recovery Act, Comprehensive Environmental, Response, Compensation, and Liability Act, Emergency Planning and Community Right-to Know Act and related toxic laws. Provides overview of the roles of judicial and legislative agencies. Modular courses EHST-131A and EHST-131B together will also meet degree requirements for this course.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): None (ENG-1010 College Composition I recommended for students without prior knowledge of law).

EHST-131A Introduction to Environmental Law -- Water and Air

02 Semester Credits

Study of U.S. Environmental Protection Agency (EPA) laws and regulations, which protect our environment and health. Involves reading, interpreting, and summarizing sections from the Code of Federal Regulations and The United States Code. Coverage includes National Environmental Policy Act, Occupational Safety and Health Act, Clean Air Act, Clean Water Act and Safe Drinking Water Act. Provides overview of the roles of judicial and legislative agencies.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): None (ENG-1010 College Composition I recommended for students without prior knowledge of law).

EHST-131B Introduction to Environmental Law – Remediation

02 Semester Credits

Study of U.S. Environmental Protection Agency (EPA) laws and regulations, which protect our environment and health. Coverage includes the Resource Conservation and Recovery Act, Comprehensive Environmental, Response, Compensation, and Liability Act, Emergency Planning and Community Right-to Know Act and related toxic laws. Management of hazardous wastes including production, treatment, transportation, and disposal of hazardous materials.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): None (ENG-1010 College Composition I recommended for students without prior knowledge of law).

EHST-1320 International Standards Organization (ISO) 14,000

02 Semester Credits

Overview and history of International Standards Organization 14,000 series, international guidelines for environmental management systems (EMS). Addresses EMS auditing, setting an environmental policy, specifying objectives and targets, performing life cycle analysis, waste minimization, environmental labeling, benefits of ISO certification, regulatory and certification requirements, implementing environmental management program, monitoring and measuring program results, and reviewing program to ensure continual improvement. Uses case study to develop an EMS. Modular courses EHST-132A and EHST-132B together will also meet degree requirements for this course.

Lecture 02 hours. Laboratory 00 hours. Prerequisite(s): None.

EHST-132A International Standards Organization (ISO) 14,000 – Management

01 Semester Credit

Addresses Environmental Management Systems (EMS) auditing, setting an environmental policy, specifying objectives and targets, performing life cycle analysis, waste minimization, environmental labeling, benefits of International Standards Organization certification, regulatory and certification requirements, implementing environmental management program, monitoring and measuring program results, and reviewing program to ensure continual improvement. Uses case study to develop an EMS.

Lecture 01 hour. Laboratory 00 hours. Prerequisite(s): None.

EHST-132B International Standards Organization (ISO) 14,000 - Product Standards

01 Semester Credit

Provides an overview and history of ISO 14,000 series, international guidelines for environmental management. Addresses International Standards Organization provisions including life cycle assessment, environmental labeling, environmental performance evaluations, environmental aspects of product standards and terms used by ISO.

Lecture 01 hour. Laboratory 00 hours. Prerequisite(s): None.

EHST-1330 Hazardous Waste Operations and Emergency Response

02 Semester Credits

Comprehensive instruction in health and safety planning and procedures for: uncontrolled hazardous waste site work; hazardous waste treatment, storage or disposal facilities (TSDFs) work; and emergency responses to hazardous materials releases. Students must complete 40 contact hours of instruction to meet OSHA's certification requirements in the training portion of 29 CFR 1910.120 (the "HAZWOPER" standard). Ten additional hours of lecture required to meet OSHA requirements.

Lecture 02 hours. Laboratory 00 hours. Prerequisite(s): None.

EHST-1340 Interdisciplinary Environmental Issues

03 Semester Credits

Study of selected interdisciplinary current issues in Environmental Health and Safety through different disciplines including literature and theatre. Examines historical and philosophical aspects of environmental topics. Covers scientific and economic factors in making environmental decisions.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

EHST-1350 Health and Safety in the Workplace

03 Semester Credits

Introduction to occupational safety and health management in general industry. Includes in-depth exploration of Occupational Safety and Health Administration (OSHA) standards, Worker Compensation programs, and proactive safety promotion such as worker training and integration of safety into quality programs.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

EHST-1800 Special Topics in Environmental Health and Safety

01-03 Semester Credits

EHST-2300 International Environmental Issues

02 Semester Credits

Overview of environmental issues in the U.S. and internationally. Analysis of global environmental issues including endangered species, overpopulation, ocean dumping, border problems, deforestation, Mexican environmental regulations and global warming. Emphasis on management options and use of international laws and treaties especially the North American Free Trade Agreement.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): EHST-1310 Introduction to Environmental Law, or EHST-131A and EHST-131B; or departmental approval.

EHST-2320 Environmental Negotiation, Mediation, and Conflict Resolutions

02 Semester Credits

Overview environmental dispute resolution in environmental policy and decision making. Examination of successful negotiation techniques and how and when to use mediation and other conflict resolution techniques. Includes negotiation, mediation and conflict resolution simulations and environmental case studies. Examines listening and interpersonal skills.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): EHST-1310 Introduction to Environmental Law, or EHST-131A and EHST-131B; or departmental approval.

EHST-2330 Ecotourism

02 Semester Credits

Examination of ecotourism as economic development and conservation activity. Discussion and analysis of human dimensions of ecotourism and impacts of ecotourism on cultural, political and social systems of host country or region. Organizations and groups, which provide ecotourism opportunities, identified and the career opportunities in ecotourism discussed.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): EHST-1310 Introduction to Environmental Law; or EHST-131A Introduction to Environmental Law – Water and Air and EHST-131B Introduction to Environmental Law – Remediation; or departmental approval

EHST-2340 Department of Transportation Regulations

02 Semester Credits

Detailed study of US Department of Transportation (DOT) regulations. Students introduced to certain Nuclear Regulatory Commissions (NRC) and Environmental Protection Agency (EPA) regulations pertinent to hazardous materials transportation. Students learn to interpret DOT regulations, recommend compliance strategies, and select packaging, labeling, documentation and placarding for selected hazardous materials.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): EHST-1310 Introduction to Environmental Law, or EHST-131A and EHST-131B; or departmental approval: equivalent experience.

EHST-2350 Emergency Planning and Response

02 Semester Credits

Develop an emergency response contingency plan for a facility or community. Preparedness includes analyzing hazards, writing and implementing contingency plans, training employees for an emergency, and evaluating effectiveness of contingency plan.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): EHST-1310 Introduction to Environmental Law; or EHST-131A and EHST-131B; or departmental approval.

EHST-2361 Environmental Sampling and Analysis

04 Semester Credits

Covers methodology of obtaining, managing and interpreting analysis results of environmental media samples including air, water, ground water and soil, and various waste samples. Quality control and quality assurance policies and procedures are emphasized. Competency in interpreting the results will be gained so that the results can be used in decision-making processes related to hazardous materials.

Lecture 03 hours. Laboratory 03 hours.

Prerequisite(s): MATH-1060 Survey of Mathematics.

EHST-2371 Occupational Safety and Health Act/Department of Transportation Refresher

01 Semester Credit

Provides annual OSHA refresher training to the hazardous waste workers and supervisors covered under 29 CFR 1910.120 (HAZWOPER) and DOT refresher training to hazmat employees covered under 49 CFR 172. Covers regulations, medical surveillance, hazard recognition, toxicology, site control, safe work practices, monitoring, personal protective equipment, decontamination and site safety.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): EHST-1330 Hazardous Waste Operations and Emergency Response, or departmental approval.

EHST-2380 Risk Assessment

02 Semester Credits

Covers basic principles and methods of conducting a risk assessment. Examines both value and limitations of risk assessment. Focuses on environmental and health risks and includes an overview of toxicological principles, reviews how risk management decisions are made in the public and private sectors. Examines how to communicate environmental and health risk, public policy choices and trade-offs to public.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): EHST-1301 Introduction to Environmental Technology, or departmental approval

EHST-2390 Solid and Hazardous Waste Management

03 Semester Credits

Study of statutes, regulations and guidelines pertaining to hazardous waste management, with emphasis on requirements of the Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended. Management of hazardous wastes including "cradle to grave" requirements and enforcement strategies. Involves reading, interpreting, and summarizing sections from Code of Federal Regulations and the United States Code.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): EHST-1310 Introduction to Environmental Law; or EHST-131A and EHST-131B; or departmental approval.

EHST-2400 Environmental Health and Safety II

03 Semester Credits

Provides overview of annual scheduled and proposed changes to federal and state environmental laws. Examines methods to track changes to laws through use of the federal register and various on-line services. Describes proactive methods to amend current laws.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): EHST-1310 Introduction to Environmental Law; or EHST-131A and EHST-131B; or departmental approval.

EHST-2800 Special Topics in Environmental Health and Safety

1-3 Semester Credits

EHST-2940 Field Experience

01-02 Semester Credits

Supervised field experience, which relates to individual student's occupational objectives. Students assigned to a site to study regulatory compliance of federal and state environmental laws. Preparation of required governmental reports regarding site operations.

Lecture 00. Laboratory 00 hours.

Other Required Hours: Field experience: 12-24 hours per week.

Prerequisite(s): EHST-1310 Introduction to Environmental Law; or EHST-131A and EHST-131B; or departmental approval.

EHST-2990 Professional Standards

01 Semester Credit

Capstone course in Environmental Health and Safety Technology. Updates knowledge of rapidly changing environmental profession. Prepares for initial employment as well as promotion to supervisory and administrative positions.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): Departmental approval: sophomore standing.

Financial Management - FIN

FIN-1060 Consumer Finance

02 Semester Credits

Introductory course to develop consumer decision-making in personal budgeting, credit, insurance, medical care, investment, home ownership, retirement planning and income taxes.

Lecture 02 hours. Laboratory 00 hours. Prerequisite(s): None.

FIN-1110 Principles of Finance

02 Semester Credits

Introductory course covering basic principles of finance, private and public government financial institutions, financial instruments, money and credit systems, and current problems in consumer and business financing.

Lecture 02 hours. Laboratory 00 hours. Prerequisite(s): None.

FIN-2100 Financial Management

03 Semester Credits

Analytical study of basic principles of financial management, financial analysis and planning, working capital management, capital budgeting, capital structure, dividend policy, financial markets, and financial instruments.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ACCT-1340 Managerial Accounting, or departmental approval: equivalent courses or equivalent work experience.

FIN-2830 Cooperative Field Experience

1-3 Semester Credits

Fire Technology - FIRE

FIRE-1000 Introduction to Fire Science

03 Semester Credits

Organization of fire service, structure and function of volunteer, paid, battalion and company. Personnel selection, training, fire equipment and apparatus, communication, records and reports, insurance ratings, EMT and Paramedic services and fire service laws.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

FIRE-1300 Fire Tactics and Strategy

03 Semester Credits

Pre-planning of fire fighting operation, size-up fire scene, employment of fire personnel and equipment. Overall command pattern at fire scene.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): FIRE-1000 Introduction to Fire Science.

FIRE-1400 Chemistry of Hazardous Materials

02 Semester Credits

Analysis of chemical reactions as causative agent of fire. Includes redox reactions, reaction rates, toxic compounds and hazardous combinations of chemicals. Safety procedures in handling hazardous materials, transporting and defusing them.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): FIRE-1000 Introduction to Fire Science.

FIRE-1800 Special Topics in Fire Technology

01-03 Semester Credits

FIRE-181T Special Laboratory Topics in Fire Technology

01-03 Semester Credits

FIRE-2320 Fire Prevention and Protection Systems

03 Semester Credits

Design and operations of fire protection systems, water distribution, detection, alarm, and watchman services. Carbon dioxide, dry chemicals, foam, and water spray systems. Inspection procedures and fire prevention. Fire prevention codes and ordinances. Examination of heating systems, L.P. gases and flammable liquids protection.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): FIRE-1000 Introduction to Fire Science, or LAWE-1000 Introduction to Criminal Justice, or departmental approval.

FIRE-2350 Building Construction for Fire Prevention

02 Semester Credits

Building construction and materials as related to fire codes and prevention. Emphasis on fire prevention procedures and practices. Fire rating of materials.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): FIRE-1000 Introduction to Fire Science, or ARCH-1410 Architectural Drafting and CAD I.

FIRE-2400 Fire Hydraulics

02 Semester Credits

Hydraulic theory. Drafting of water, velocity and discharge, friction loss, engine and nozzle pressure, fire streams, pressure losses, flow and pump testing and application to fire service.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): FIRE-1000 Introduction to Fire Science.

FIRE-2600 Fire Investigation Methods

03 Semester Credits

Principles of fire investigation, arson laws, interrogation of witnesses. Use of photography in fire investigation. Preparation of reports. Collection and presentation of arson evidence in court.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): FIRE-1000 Introduction to Fire Science.

FIRE-2720 Fire Service Training and Public Relations

02 Semester Credits

Methods and techniques of instruction for fire personnel. Organization of training programs and preparation of training materials. Study of public relations as related to fire service with emphasis on building good will and explanation of fire service activity in the community.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): FIRE-1000 Introduction to Fire Science.

FIRE-2730 Managing Fire Services

03 Semester Credits

Capstone course in Fire Technology. Total management of effective fire and medical emergency services on immediate basis. Budget, personnel, labor relations, measurement and evaluation of productivity of service. Training and supervision of fire service personnel.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): FIRE-1300 Fire Tactics and Strategy.

FIRE-2800 Special Advanced Topics in Fire Technology

01-03 Semester Credits

FIRE-281T Special Advanced Laboratory Topics in Fire Technology

01-03 Semester Credits

Specialized three-hour lab per credit.

FIRE-2830 Cooperative Field Experience

1-3 Semester Credits

French – FREN

FREN-1010 Beginning French I

04 Semester Credits

Introduction to French through multiple approaches with emphasis on speaking and understanding. Practice in conversational French and aural comprehension of topics of daily interest. Some practice in writing basic sentences and small simple paragraphs on relevant topics, and reading short paragraphs.

Lecture 03 hours. Laboratory 02 hours. Prerequisite(s): None.

FREN-1020 Beginning French II

04 Semester Credits

Development of proficiency in speaking, understanding, reading, and writing. Emphasis on strengthening conversational skills through discussions of selected readings and cultural topics.

Lecture 03 hours. Laboratory 02 hours.

Prerequisite(s): FREN-1010 Beginning French I, or one year of high school French; or departmental approval.

FREN-1100 French Intercultural Perspectives

03 Semester Credits

French contributions to world culture and various nation-shaping events throughout history, with particular emphasis on shaping of United States of America. Cultural presence of France in United States.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

FREN-1800 Special Topics in French

1-3 Semester Credits

FREN-1820 Independent Study in French

1-3 Semester Credits

FREN-2010 Intermediate French I

03 Semester Credits

Discussion of topics of everyday life, colloquialisms, vocabulary augmentation, and improvement of speech patterns. Grammar review. Practice in writing compositions. Introduction to civilization and literature of France.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): FREN-1020 Beginning French II, or two years of high school French; or departmental approval.

FREN-2020 Intermediate French II

03 Semester Credits

Intensive exercises in written and oral expression. Additional grammar review and vocabulary building. Further exploration of French literature.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): FREN-2010 Intermediate French I, or three years of high school French; or departmental approval.

FREN-2410 French Conversation and Composition

03 Semester Credits

Discussion of topics of everyday life, colloquialisms, vocabulary augmentation, and improvement of speech patterns. Practice in writing compositions. Discussion of French history and culture.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): FREN-2020 Intermediate French II, or three years of high school French; or departmental approval.

FREN-2420 French Civilization and Literature

03 Semester Credits

Introduction to French civilization and literature. Emphasis on interrelationship between history and geography of France and its culture. Readings in French literature of 19th and 20th centuries. Highlights of representative authors and their works. Emphasis on oral discussion. Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): FREN-2020 Intermediate French II, or three years of high school French; or departmental approval.

FREN-2800 Special Advanced Topics in French

01-03 Semester Credits

Course Descriptions

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General Studies – GEN

GEN-1000 Introduction To College

01 Semester Credit

Orients students to the College's programs, services, and policies. Topics may include student resources, college and student expectations, academic support services, financial aid, degree programs, and student rights and responsibilities.

Lecture 01 hour. Laboratory 00 hours. Prerequisite(s): None.

GEN-1010 Personal Development

02 Semester Credits

Experience-based course designed to help students examine individual resources, values, and goals. Emphasis placed on planned experiences to focus on self-direction, self-motivation, self-confidence, and empathy in a group setting.

Lecture 02 hours. Laboratory 00 hours. Prerequisite(s): None.

GEN-1020 College Survival Strategies

02 Semester Credits

Information and methods helpful for student success in college. Planning, time management, communication skills, relationships, memory techniques, test-taking skills, college resources, and other topics important to college success.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-0990 Language Fundamentals II or higher; or departmental approval.

GEN-1031 CyberResearch in the Library

02 Semester Credits

Hands-on instruction using the World Wide Web and electronic library resources to locate information for course related and personal needs. Emphasis on search strategies, information retrieval and management, and source evaluation. Instruction using a variety of print and electronic materials.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

GEN-1040 Career Exploration

02 Semester Credits

Survey of career development theory. Emphasis on nature and meaning of work, values, interests, functional skills, attitudes and needs as related to career development process. Sources of occupational information discussed. Series of self-assessment inventories utilized.

Lecture 02 hours. Laboratory 00 hours. Prerequisite(s): None.

GEN-1050 Organizing Your Employment Campaign

02 Semester Credits

Techniques for initiating an employment campaign including occupational information, identifying potential employers, labor market trends, interviewing techniques and resume preparation. Criteria for job satisfaction and job adjustment analyzed.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-0990 Language Fundamentals II or higher; or departmental approval.

GEN-1800 Special Topics in General Studies

1-3 Semester Credits

GEN-181S Special Laboratory Topics in General Studies

1-3 Semester Credits

Specialized two-hour lab for credit.

GEN-1820 Independent Study in General Studies

1-3 Semester Credits

Specific content and objectives to be arranged between instructor and student. May be repeated for a maximum of six credits.

Lecture 1-3 hours. Laboratory 00 hours.

Prerequisite(s): Concurrent enrollment in GEN-1000

Introduction To College, and placement in ENG-0980 Language Fundamentals I.

Geography - GEOG

GEOG-1010 World Regional Geography

03 Semester Credits

Study of present issues and future prospects of developed and developing countries. Emphasis on economic activities determined by physical environment, social and cultural characteristics, and political stability.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

GEOG-1030 Environmental Geography

03 Semester Credits

Study of issues created by a rapidly increasing world population causing depletion of world energy resources and agricultural crises. Other environmental problems including pollution, destruction of rain forests, overgrazing, and loss of habitat considered.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

GEOG-1050 Africans in the Americas

03 Semester Credits

Study of world regions touched by the African Diaspora, especially Africa, Caribbean, Brazil, and United States. Focus on characteristics of each region, demographic changes, and variations that shaped culture during and after slavery and to the present.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

GEOG-1510 Regional Geography of the United States and Canada

03 Semester Credits

Regional geography of the United States and Canada noting significant characteristics of each region. Physical setting, economic activities, cultural diversity, social conditions, and political identity of each region studied.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

GEOG-1800 Special Topics in Geography

1-3 Semester Credits

German - GER

GER-1010 Beginning German I

04 Semester Credits

Introduction to German through multiple approaches with emphasis on speaking and understanding. Practice in conversational German and aural comprehension of topics of daily interest. Some practice in writing basic sentences and small simple paragraphs on relevant topics and reading short paragraphs.

Lecture 03 hours. Laboratory 02 hours. Prerequisite(s): None.

GER-1020 Beginning German II

04 Semester Credits

Development of proficiency in speaking, understanding, reading, and writing. Emphasis on strengthening conversational skills through discussions of selected readings and cultural topics.

Lecture 03 hours. Laboratory 02 hours.

Prerequisite(s): GER-1010 Beginning German I, or one year of high school German, or departmental approval.

GER-1150 Beginning Business German I

04 Semester Credits

Introduction to German business practices. Emphasis on business vocabulary and business terms through use of simple exercises. Conversational topics associated with daily business dealings. Awareness of cultural business differences.

Lecture 03 hours. Laboratory 02 hours. Prerequisite(s): None.

GER-1160 Beginning Business German II

04 Semester Credits

Continued study of German business dealings and further practice in speaking, understanding, reading and writing. Emphasis on strengthening conversational business skills through discussions of selected business terms and settings. Study of management style, labor relations and import-export dealings. Emphasis on cultural differences.

Lecture 03 hours. Laboratory 02 hours.

Prerequisite(s): GER-1150 Beginning Business German I, or departmental approval.

GER-1800 Special Topics in German

1-3 Semester Credits

GER-1820 Independent Study in German

1-3 Semester Credits

GER-2010 Intermediate German I

03 Semester Credits

Discussion of topics of everyday life, colloquialisms, vocabulary augmentation, and improvement of speech patterns. Grammar review. Practice in writing compositions. Introduction to German civilization and literature.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): GER-1020 Beginning German II, or two years of high school German, or departmental approval.

GER-2020 Intermediate German II

03 Semester Credits

Intensive exercises in written and oral expression. Additional grammar review and vocabulary building. Further exploration of German literature.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): GER-2010 Intermediate German I, or three years of high school German, or departmental approval.

GER-2410 German Conversation and Composition

03 Semester Credits

Practice in German conversation and composition skills. Vocabulary augmentation. Discussion of German history and culture.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): GER-2020 Intermediate German II, three years of high school German, or departmental approval.

GER-2420 German Civilization and Literature

03 Semester Credits

Introduction to German civilization and literature. Emphasis on the interrelationship between German history, literature and culture. Readings of German modern literature. Emphasis on oral discussion.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): GER-2020 Intermediate German II, three years of high school German, or departmental approval.

Graphic Communications and Photography - GCMT

GCMT-1001 Orientation to the Publishing Industries

02 Semester Credits

Overview of publishing industries, World Wide Web publishing, multimedia products and print, exploring history, technical processes, terminology, career opportunities and technological changes. Acquaint students with literature, web sites, professional and trade organizations. Discussion of career opportunities in publishing industries.

Lecture 02 hours. Laboratory 00 hours. Prerequisite(s): None.

GCMT-1010 Orientation to Publishing Laboratory

01 Semester Credit

Exploratory experiences in processes and procedures used to produce printed product. Designed for those with little or no experience in use of tools, materials and techniques of printing and publishing industry. Includes laboratory and field experiences to augment and reinforce printing concepts.

Lecture 00 hours. Laboratory 03 hours. Prerequisite(s): None.

GCMT-1020 Macintosh Basics

01 Semester Credit

Introduction to Macintosh computer as a tool for graphics and photographic community. Provides experiences with unique characteristics of Macintosh and its operating system. Explores hardware, peripherals, and issues unique to digital publishing environments.

Lecture 01 hour. Laboratory 00 hours. Prerequisite(s): None.

GCMT-1220 Digital Output Systems I

02 Semester Credits

Introduction to development and growth of digital imaging systems, technologies used, scope of products produced, economic impact and associated career opportunities.

Emphasis on set-up and operation of medium and high speed imaging systems used to produce basic products using monochrome electrostatic on-demand digital imaging systems. Field trips to industry sites may be required.

Lecture 01 hour. Laboratory 03 hours. Prerequisite(s): None.

GCMT-1230 Digital Output Systems II

02 Semester Credits

Production techniques using advanced features of monochrome digital output systems, spot color systems and operation of color digital printing devices. Comparison of features, technology and applications of competitive processes producing a wide array of products suitable for the direct digital/on-demand printing markets. Field trips to industry sites may be required.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): GCMT-1220 Digital Output Systems I.

GCMT-1240 PDF Workflow, Asset and Systems Management

02 Semester Credits

Investigation of networking and connectivity systems and practices which support the creation, production and management of digitally produced and digitally imaged documents. Emphasis on creating efficient workflows; acquiring, transforming, storing, transmitting and retrieving digital assets for on-demand digital print output; and conversion of documents produced in native application language formats into portable document formats for viewing and printing. Field trips to industry sites may be required.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): GCMT-1400 Computer Applications for Publishing, or concurrent enrollment.

GCMT-1250 Variable Data Document Creation and Printing

02 Semester Credits

Survey of fastest growing segment of direct to output digital printing market. Discussion of role and process of personalized publications in business and advertising, and integration of existing database information or collection of new data to create dynamic personalized documents.

Fundamentals of various databases used in publishing, requirements, capabilities and limitations of various processes, software products, and output equipment used for variable data printing. Practice in analysis of database file structure, customer needs for design, creation, and output of black and white and process color documents showing various levels of variability. Field trips to industry sites may be required.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): GCMT-1230 Digital Output Systems II, or concurrent enrollment.

GCMT-1300 Introduction to Visual Communications

02 Semester Credits

Explores basic concepts of perception, visual order, color, symbolism, iconography and pictorial imagery as it pertains to communication. Physiological, psychological, social and cultural biases are examined to gain a better understanding of how to create effective photographs, layouts, illustrations, videos and information design. Requires minimum of 15 additional hours outside classroom to complete reading, written and visual assignments.

Lecture 02 hours. Laboratory 00 hours. Prerequisite(s): None.

GCMT-1340 Imaging Science

02 Semester Credits

Basic physics, chemistry and mathematics for printing and digital publishing processes. Includes metrics, measuring systems, effects of different molecular states, molecular energy, magnetism, electricity, pressroom chemistry, lithographic plates, chemistry of inks and paper, recycled paper, digital presses, lenses, digital and traditional photography, sensitometry, densitometry and spectrophotometry, digital prepublishing, scanning and the Internet. Recommended for those wishing to understand how processes work.

Lecture 02 hours. Laboratory 00 hours. Prerequisite(s): None.

Course Descriptions

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GCMT-1350 Image Reproduction and Film Assembly

02 Semester Credits

Fundamental concepts of lithographic darkroom and offset stripping procedures. Theory and practice with contacting and process camera operations producing line, halftone and special effect images. Planning layouts and assembly of flats for single and multi-color printing and multi-page impositions, monochrome and color proofing, register systems, machine processing, densitometry, and quality control.

Lecture 01 hour. Laboratory 03 hours. Prerequisite(s): None.

GCMT-1400 Computer Applications for Publishing

03 Semester Credits

Introduction to computer and its application in printing, publishing, photography and multimedia. Provides experiences with microcomputers, software, data storage and input and output devices. Concentrates on applications used to create and modify graphic images, page layouts, and visual presentations. Introduction to computer operations and basic business applications. Explores hardware and software selection, networking, telecommunications and program languages specific to the industry.

Lecture 02 hours. Laboratory 03 hours. Prerequisite(s): None.

GCMT-1410 Integrating Production and Design for Graphic Products

03 Semester Credits

Overview of processes used in planning, specifying, designing and preparing copy, images and layout for conventional and electronic reproduction and distribution of graphic products. Emphasizes planning processes, and reproduction requirements and standards for producing a variety of printed and electronically distributed products. Includes principles of design, layout and product development for output process and distribution requirements; type identification and specification; copy communications including markup, proofreading; scaling copy, preparing output-ready art, and reproducing electronic files on print-on-demand and/or display systems. Introduction to multimedia and interactive materials.

Lecture 02 hours. Laboratory 03 hours. Prerequisite(s): None.

GCMT-1450 Troubleshooting and Maintaining Computer Publishing Systems

02 Semester Credits

Procedures for optimizing performance of computer based publishing systems. Emphasis on diagnostic and repair procedures for system and application malfunctions; installing, upgrading and uninstalling software; and preventing software conflicts. Establishing preventive maintenance program. Basic introduction to hardware component problems and network connectivity issues. Focus on appropriate software utilities, diagnostic tools and enabling technologies.

Lecture 01 hours. Laboratory 03 hours.

Prerequisite(s): GCMT-1400 Computer Applications for Publishing.

GCMT-1500 Black and White Photography I

03 Semester Credits

Introduction to technical and aesthetic fundamentals of black and white photography. Emphasizes camera operation, exposure and development of film and printing techniques, and aesthetics of contemporary photography. Student must provide own camera, film and printing paper. *Lecture 02 hours. Laboratory 03 hours. Prerequisite(s): None.*

GCMT-1510 Black and White Photography II

03 Semester Credits

Advanced black and white photographic principles and techniques with emphasis on refinement of technical skills. Development of critical skills necessary for self-evaluation and appreciation of aesthetic issues in the medium.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): GCMT-1500 Black and White Photography I, or departmental approval: submission of portfolio of photographs.

GCMT-1520 Color Photography I

03 Semester Credits

Introduction to technical and aesthetic fundamentals of color photography. Color theory, film characteristics, lighting characteristics and processing techniques for use with color transparency, negative and print materials. Student must provide own adjustable camera with build-in or hand-held light meter, film and printing supplies.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): GCMT-1500 Black and White Photography I, or departmental approval: submission of portfolio of photographs.

GCMT-1530 Photography for Non-Majors

01 Semester Credit

Photography class introducing students to methods and materials used in commercial photography. Aesthetic, technical, and business considerations that determine effective use of photographs in communications materials. Analysis of formal qualities that convey a photograph's meaning. Designed for students whose career choices require an understanding of photographs, such as Commercial Art and Design, Multimedia, Graphics Management, Journalism, History, Marketing and Communications.

Lecture 01 hour. Laboratory 00 hours. Prerequisite(s): None.

GCMT-1540 History of Photography

03 Semester Credits

Survey of history of world photography from 1839 to present day. Technical and aesthetic evolution of photography and changing role in society.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

Course Descriptions

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GCMT-1600 Digital Imaging I

03 Semester Credits

Introduction to technical and aesthetic fundamentals of digital photography. Emphasizes use of computer software for modification of photographic image. Use and understanding of computer hardware and software systems for input, modification and output of digital photographs.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): GCMT-1500 Black and White Photography I; or GCMT-1530 Photography for Non-Majors or concurrent enrollment; and GCMT-1020 Macintosh Basics or concurrent enrollment; or GCMT-1400 Computer Applications for Publishing or concurrent enrollment; or departmental approval: prior photographic and computer experience.

GCMT-1610 Virtual Reality Imaging

02 Semester Credits

Technical and aesthetic concepts of virtual reality photography. Emphasizes use of computer hardware and software for creating virtual reality images. These images used for interactive onscreen presentations or output as large scale panoramic photographic prints.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): GCMT-1600 Digital Imaging I and GCMT-1020 Macintosh Basics, or GCMT-1400 Computer Applications for Publishing; or departmental approval.

GCMT-1800 Special Topics in Graphic Communications and Photography

1-3 Semester Credits

GCMT-181S Special Laboratory Topics in Graphic Communications and Photography

1-3 Semester Credits

Specialized two-hour lab per credit.

Health - HLTH

HLTH-1100 Personal Health Education

03 Semester Credits

Introduction to meaning and scope of health as related to individual, family, and community and society. Focuses on introspective view of physical, emotional, intellectual, social, occupational, environmental, and spiritual dimensions of health with emphasis on mechanism for positive behavior change.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

HLTH-1230 Standard First Aid and Personal Safety

01 Semester Credit

Basic level first aid and one-person CPR course intended to provide knowledge and skills necessary to minimize consequences of injury and sudden illness until professional medical help arrives. Special emphasis placed on cause, effect, and prevention in relation to emergency care. Upon successful completion, student is eligible for certification in Standard First Aid by the American National Red Cross.

Lecture 01 hour. Laboratory 00 hours. Prerequisite(s): None.

HLTH-1300 Health and Medical Aspects of Chemical Dependency

03 Semester Credits

Focuses on health and medical considerations of drug use, with emphasis on alcohol. Provides overview of history of alcohol use, etiology of drug dependency, physiological and psychological effects of chemical abuse, and effects of drug use on relationships.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

HLTH-1400 Childhood Health, Safety and Nutrition

03 Semester Credits

Focuses on nutrition, health, and safety needs of young children. Training provided in communicable disease recognition, prevention and management, first aid, infant/child CPR, and child abuse recognition and prevention, as required by Ohio Day Care Licensing Rules. Nutritional requirements of young children, meal planning and menu evaluation, principles of hygiene and safety in storage, preparation and serving of food addressed. Positive health practices emphasized as integral elements in nurturing children's total development.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

HLTH-2500 Women's Health Issues

03 Semester Credits

Exploration of all dimensions of women's health, identification of health risks unique to women, evaluation of traditional and non-traditional approaches to health care problems, and development of personal strategies for selection of health enhancing behaviors.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ENG-1010 College Composition I, or departmental approval.

HLTH-2800 Special Advanced Topics in Health

1-3 Semester Credits

Course Descriptions

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Health Information Management - HIM

HIM-1010 Basic Medical Transcription

01 Semester Credit

Introduction to the basic concepts of medical transcription with emphasis on transcription equipment, transcribing techniques, use of medical reference books, and practice in transcribing various reports.

Lecture 00 hours. Laboratory 03 hours.

Prerequisite(s): Departmental approval.

HIM-1050 Medical Transcription

02 Semester Credits

Further development of skills necessary to transcribe medical dictation with emphasis on speed and accuracy. Students will transcribe a wide variety of physician-dictated reports arranged by body system or medical specialty.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): Departmental approval.

HIM-1110 Physician Office Coding

02 Semester Credits

Introduction to basic concepts of coding using ICD-9-CM (International Classification of Diseases, Ninth edition, Clinical Modification) for diseases and CPT (current procedural terminology) to meet requirements for physician office coding and billing.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): Departmental approval.

HIM-1130 Introduction to Coding with CPT

02 Semester Credits

Introduction to coding using Current Procedural Terminology (CPT) with emphasis on basic skills required to code medical services and procedures.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): Departmental approval.

HIM-1150 Introduction to Coding with ICD-9-CM

02 Semester Credits

Introduction to basic principles required to code diseases and procedures using International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) classification system.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): Departmental approval.

HIM-1300 Principles of Health Information Management

04 Semester Credits

Introduction to field of health information management (HIM) including overview of the profession; functions of HIM department; purposes, uses and flow of patient information through health care system.

Lecture 03 hours. Laboratory 02 hours.

Prerequisite(s): Departmental approval: admission to program.

HIM-1310 Legal Aspects of Health Care

02 Semester Credits

Introduction of legal and ethical issues applicable to health information including confidentiality, release of information, legislative process, the court system, legal vocabulary, retention guidelines, patient rights/advocacy, advance directives and ethics.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): Departmental approval.

HIM-1400 Health Care Delivery Systems

03 Semester Credits

Overview of health care delivery system including trends and issues, identification and organization of health care professionals and health care facilities.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): HIM-1300 Principles of Health Information Management, or departmental approval.

HIM-1410 Health Care Statistical Applications

02 Semester Credits

Introduction to use, collection, presentation, and verification of health care data including fundamental concepts of descriptive statistics; data validity and reliability; data presentation techniques; and vital statistics.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): HIM-1300 Principles of Health Information Management, and MA-1020 Medical Terminology I; or departmental approval.

HIM-1420 Health Data Content and Structure

03 Semester Credits

Documentation requirements for complete and accurate health records as required by licensing, certifying and accrediting agencies; forms design; functions of assembly, analysis and abstracting; health information systems needs and applications.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): HIM-1310 Legal Aspects of Health Care, BIO-2330 Anatomy and Physiology I, and MA-1020 Medical Terminology I; or departmental approval.

HIM-1800 Special Topics in Health Information Management

1-3 Semester Credits

HIM-1820 Independent Study in Health Information Management

1-3 Semester Credits

HIM-2300 Coding Systems Used in Health Care

04 Semester Credits

Study of classification systems used in health care with emphasis on theory and application of skills required to code diagnoses and procedures using International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) classification system and to code medical services and procedures using Current Procedural Terminology (CPT).

Lecture 03 hours. Laboratory 03 hours.

Prerequisite(s): HIM-1410 Health Care Statistical Applications; and HIM-1420 Health Data Content and Structure; and BIO-2440 Anatomy and Physiology II; or departmental approval.

HIM-2310 Data Assessment and Registries

03 Semester Credits

Introduction to disease and health registries and to data assessment activities being performed in health care facilities. Discussion of Practicum experiences.

Lecture 01 hour. Laboratory 02 hours.

Other Required Hours: Seminar: 1 hour per week.

Prerequisite(s): HIM-1400 Health Care Delivery Systems, and IT-2300 Database Use and Design; or departmental approval.

HIM-2400 Advanced Coding and Reimbursement

02 Semester Credits

Introduction to prospective payment system and computer applications of coding skills. Further development of skills necessary to code using International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and Current Procedural Terminology (CPT).

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): HIM-2300 Coding Systems Used in Health Care, and BIO-2600 Pathophysiology; or departmental approval.

HIM-2410 Management Practices in Health Information

02 Semester Credits

Capstone course in Health Information Management. Introduction to management principles used in managing health information functions and personnel, with emphasis on duties and responsibilities of supervisor in coordinating goals of a health information management department; training of personnel; concepts of continuous quality improvement.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): HIM-2310 Data Assessment and Registries, or departmental approval.

HIM-2420 Trends in Health Information Management

02 Semester Credits

Capstone course in Health Information Management. Introduction to design concepts and information systems to support biomedical and health services research and investigation; discussion of selected diseases from various perspectives including clinical, ethical and economical; discussion of current trends, recent research, theory, issues and development in health information management; discussion of practicum experience.

Lecture 00 hours. Laboratory 02 hours.

Other Required Hours: Seminar: 1 hour per week.

Prerequisite(s): HIM-2850 Practicum I, or departmental approval.

HIM-2800 Special Advanced Topics in Health Information Management

1-3 Semester Credits

HIM-2820 Independent Advanced Study in Health Information Management

1-3 Semester Credits

HIM-2850 Practicum I

02 Semester Credits

Supervised practicum designed to allow student to apply technical knowledge and skills learned in classroom to procedures performed in health information management department. Assignments will be made to various types of health care facilities to gain exposure to health information practices.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 14 hours per week.

Prerequisite(s): Concurrent enrollment in HIM-2310 Data Assessment and Registries; and HIM-1400 Health Care Delivery Systems; and HIM-1410 Health Care Statistical Applications; and HIM-1420 Health Data Content and Structure; and IT-2300 Database Use and Design; or departmental approval.

HIM-2860 Practicum II

02 Semester Credits

Capstone course in Health Information Management. Second of two supervised practicums designed to allow student to apply technical knowledge and skills learned in classroom to procedures performed in health information management department. Assignments will be made to various types of health care facilities to gain exposure to health information practices.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 14 hours per week.

Prerequisite(s): Concurrent enrollment in HIM-2420 Trends in Health Information Management; and HIM-2300 Coding Systems Used in Health Care; and HIM-2310 Data Assessment and Registries; and HIM-2850 Practicum I; or departmental approval.

Health Technologies - HTEC

HTEC-1020 Integrated Basic Science

03 Semester Credits

Introduction to basic sciences and pathology. Concepts of physics, chemistry and life sciences emphasizing application to human structure and function. Integrated approach to study of human body in health and as altered by various disease states.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

HTEC-1040 Health Career Exploration

01 Semester Credits

Introduction to a variety of health career options with an emphasis on qualifications, job responsibilities and employment opportunities. Includes identifying components from each health career that relate to lifestyle risk factors. Students will learn how to become educated consumers with regards to seeking accurate health information.

Lecture 01 hour. Laboratory 00 hours. Prerequisite(s): None.

HTEC-1100 Allied Dental Pharmacology

02 Semester Credits

Survey course acquainting Dental Assisting students with basic principles and concepts of pharmacology. Provides a general review of therapeutic use of drugs in a dental/ medical emergency. Emphasizes indications and contraindications of drugs relating to dental anesthetics.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to Dental Assisting Program.

HTEC-1110 Ethics for Health Care Professionals

01 Semester Credit

Survey course emphasizing basic definitions, concepts and issues of clinical law and ethics for health care professionals. Ethical decision-making models will be explained utilizing professional-patient relationship and case studies.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

HTEC-1170 Fundamentals of Electrocardiogram

01 Semester Credit

Theory of entry level cardiovascular procedures for electrocardiography (EKG). Emphasis on technical accuracy in operational, problem solving and quality control skills. Recommended for students currently enrolled in health career program or employed in health career field.

Lecture 01 hour. Laboratory 00 hours. Prerequisite(s): None.

HTEC-1200 Patient Management for Health Career Professionals

01 Semester Credit

Basic overview of managing patients in various situations. Emphasis on understanding patient's feelings. Development of motivational plans based on patient's needs.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to a health career program.

HTEC-1610 Introduction to Pharmacology

02 Semester Credits

Acquaint students with general principles and concepts of pharmacology. Provide understanding of indications, uses, doses and contraindications associated with individual drugs as well as mechanisms of drug administration and therapeutic management of patients with specific disease processes. Review basic mathematics related to correct calculation of drug dosages and preparation of solutions.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

HTEC-1800 Special Topics in Health Technologies

1-3 Semester Credits

Course Descriptions

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History - HIST

HIST-1010 History of Civilization I

03 Semester Credits

Introduction to study of world civilizations from ancient times to beginning of modern era.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

HIST-1020 History of Civilization II

03 Semester Credits

Introduction to study of world civilizations from 17th century to present.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

HIST-1510 United States History to 1877

03 Semester Credits

Introduction to study of United States history from Age of Exploration to end of Reconstruction.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

HIST-1520 United States History Since 1877

03 Semester Credits

Introduction to study of United States history from post Civil War/Reconstruction to present.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

HIST-1610 American Studies

03 Semester Credits

Introduction to American Studies. Discussion of selected issues and institutions in American civilization; multidisciplinary approach to subject matter utilizing concepts from various social science and humanities disciplines.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

HIST-1630 History of Immigration in America

03 Semester Credits

Study of immigration in America. Discussion of ethnic institutions; explanation of continuity and change between first, second and third generations of an immigrant group, and exploration of relationships between and among different groups; analysis of nativism and restrictionism; and explanation of immigrant contributions to America.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

HIST-1700 History of Africa

03 Semester Credits

General survey of African history with special emphasis on pre-colonial (pre-1500) Africa plus political, economic and social challenges of nineteenth and twentieth centuries. Importance of Islam and emergence of South Africa from apartheid era.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

HIST-1710 African-American History to 1877

03 Semester Credits

Study of African-American experiences from African origins through Atlantic slave trade, adaptation to the Americas, and influence on American culture from slavery to emancipation and Reconstruction.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

HIST-1720 African-American History 1877 To Present

03 Semester Credits

Study of African-American experiences from end of Reconstruction, development of institutionalized racial discrimination, growth of racial advancement organizations, migration to cities, development of racial consciousness, and struggle for civil rights and political power until present time.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

HIST-1800 Special Topics in History

1-3 Semester Credits

HIST-1820 Independent Study in History

1-3 Semester Credits

HIST-2050 History of Russia To 1917

03 Semester Credits

Growth, development and decline of Kievan state; evolution of Muscovite tsardom and expansion of Russian Empire to 1917. Considers geopolitical, social, cultural, and intellectual development of Russian state; emphasis on theory of tsardom which led to emergence of distinct civilization in Russia.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Any 1000-level history or political science course; or departmental approval.

HIST-2060 Modern Russian History and Politics

03 Semester Credits

Development of U.S.S.R. since collapse of tsarist monarchy to dissolution of Soviet Union and Communist system. Emphasis on origins, development, establishment of power and rule by Communist government; analysis of development and implementation of domestic and foreign policies.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Any 1000-level history or political science course; or departmental approval.

HIST-2070 African American Women in History

03 Semester Credits

Historical study of African-American women from their cultural roots in Africa, experiences during the Middle Passage, adaptation and influence in the Americas, and special focus on North America from colonial times to the present.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Any 1000-level history or political science course; eligibility for ENG-1010 College Composition I; or departmental approval.

HIST-2080 Latin American History

03 Semester Credits

Study of the history of Latin America from the indigenous civilizations to the present time. Analysis of the social, cultural, political, and economic development of the region and relations between Latin American nations and the United States.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ENG-1010 College Composition I or equivalent, or departmental approval.

HIST-2660 Women in American History

03 Semester Credits

Study of changing role of women in America from colonial times to present. Introduction to current research techniques used to reconstruct family, political and work roles; special emphasis on participation in social reforms leading to women's rights, suffrage and feminist movements; impact of race, gender and region on gender perspectives and conflicts; evaluation of contemporary trends.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Any 1000-level history or political science course; or departmental approval.

HIST-2800 Special Advanced Topics in History

1-3 Semester Credits

HIST-2820 Independent Advanced Study in History

1-3 Semester Credits

Hospitality Management – HOSP

HOSP-1010 Introduction to the Hospitality Industry

02 Semester Credits

Comprehensive tour through fascinating and challenging related fields and career opportunities in hospitality industry; travel and tourism, lodging, food service, meetings, conventions and expositions, leisure and recreation, and beverage operations. Mapping of specific positions including requirements of job duties, skills, knowledge, personality attributes, physical abilities, and working conditions. Basic keys to successful career in service-based industry. Provides a basis for understanding lodging and food and beverage through an overview of industry in the Greater Cleveland area, nationally and globally, and through examination of current trends.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I, or departmental approval: industry experience.

HOSP-1020 Sanitation and Safety

02 Semester Credits

Examines sanitation and safety practices in food service and lodging establishments. Management oriented treatment for prevention of food borne illnesses using HACCP principles of safe food handling, sanitary design, care of facilities and equipment, pest control, self-inspection, and interpretation of food service laws. Causes and prevention of accidents and elementary first aid including the Heimlich Maneuver and CPR are also included. Students plan and practice employee training. Students must pass a national exam, which will provide State Health Department Certification.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I; or departmental approval: industry experience.

HOSP-1030 Basic Food Preparation

03 Semester Credits

Introduction to food preparation techniques, culinary theory, and equipment used in commercial food service. Basic concepts of kitchen organization and operation, heat transfer, basic terminology, use of standardized recipes, weights and measures, product evaluation, recipe conversion, food composition and introduction to commercial equipment and work methods. American Culinary Federation competency skills included.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): Eligibility for MATH-0950 Beginning Algebra I, and eligibility for ENG-1010 College Composition I, and HOSP-1020 Sanitation and Safety or concurrent enrollment; or departmental approval: industry experience.

HOSP-1040 Customer Services

02 Semester Credits

Theories and principles of guest service in hospitality industry. Discussion and practice of basic skills and competencies needed in entry level food and beverage service positions to provide quality guest service as recommended by the National Restaurant Association. Introduction to selected basic competencies for following positions as recommended by Educational Institute of American Hotel and Motel Association: Front Desk Clerk, Reservationist, Bell Attendant, Concierge, and Housekeeper.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): Eligibility for MATH-0950 Beginning Algebra I, and eligibility for ENG-1010 College Composition I, and HOSP-1020 Sanitation and Safety or concurrent enrollment; or departmental approval: industry experience.

HOSP-1350 Menu Planning and Nutrition

03 Semester Credits

Study of central role of menu in food and beverage operations in terms of facility, equipment, staff, nutritional adequacy, merchandising and marketing for profitability. Emphasis on comprehension and application of principles of nutritional dietary guidelines in menu planning process. Practice in researching, writing, presenting, and evaluating menus for variety of food operations. Computer generated menus and menu labeling.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): Eligibility for MATH-0950 Beginning Algebra I; and eligibility for ENG-1010 College Composition I.

HOSP-1370 Food and Beverage Operations I

03 Semester Credits

Overview of the many aspects of food and beverage operations and knowledge and skills needed by various operational and management positions. Focuses on three specific areas of food and beverage operations: bar and beverage operations, food and beverage menu, and calculations of food and beverage selling prices. Skill practice in bartending skills, beverage service, menu planning, calculating selling prices, and evaluating product quality.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I, and MATH-0950 Beginning Algebra I or higher; or departmental approval: industry related experience.

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HOSP-1380 Dimensions of Tourism

03 Semester Credits

Cross-disciplinary approach to examine the many facets of tourism. Social science perspective provides students with practical knowledge that can effectively be applied to hospitality industry. Discussion of terminology, concepts, and various specialized fields that comprise the industry will be reviewed. Advanced information that serves as bridge to further analysis or study provided. Field trips may be taken to Cleveland area attractions.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): HOSP-1010 Introduction to the Hospitality Industry or concurrent enrollment; or departmental approval: industry experience.

HOSP-1450 Advanced Food Preparation

04 Semester Credits

Continuation of basic food preparation with further development of culinary theory and skills. Practice of contemporary food techniques with wide variety of food productions including meat, fish, poultry, vegetables, soups and stocks. Applying combining, plating, and garnishing techniques also included. Skill training based on American Culinary Federation Apprenticeship competencies. A written certification test and a cooking exam required.

Lecture 02 hours. Laboratory 06 hours.

Prerequisite(s): HOSP-1030 Basic Food Preparation.

HOSP-1480 Housekeeping Operations

02 Semester Credits

Fundamentals of professional housekeeping services in the lodging industry. Examines basic cleaning methods and equipment currently used; work production and quality control techniques peculiar to housekeeping management; factors determining frequency workload and staffing. Housekeeping procedures and management placed within the context of overall operation of a lodging facility. On-site observation and computer-based training at local hotels provide practical application of housekeeping functions.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): HOSP-1010 Introduction to the Hospitality Industry; and HOSP-1020 Sanitation and Safety; and HOSP-1040 Customer Services; or departmental approval: industry experience.

HOSP-1551 Baking Production and Sales I

03 Semester Credits

Theoretical and practical foundation in baking practices. Develop skills and knowledge that meet American Culinary Federation standards for quality handcrafted products. Emphasis on recognizing quality standards, cost controls, labor controls, marketing and packaging.

Lecture 01 hour. Laboratory 06 hours.

Prerequisite(s): HOSP-1020 Sanitation and Safety or concurrent enrollment; and HOSP-1030 Basic Food Preparation or concurrent enrollment; or departmental approval: industry-related experience.

HOSP-1580 Front Office Operations

02 Semester Credits

Fundamentals of front office operations in lodging properties. On-site observation with practical application of front office functions. Includes all phases of guest cycle.

Computer practice in areas such as reservations, confirmation, room availability, guest services and operational controls.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): HOSP-1010 Introduction to the Hospitality Industry; and HOSP-1040 Customer Services.

HOSP-1650 Dining Room Operations

02 Semester Credits

Study, discussion and demonstration of various types of dining room service and operations. Emphasis on individual training of service personnel in different areas of responsibility within a restaurant facility dining room, including serving, setup, labor, point of sale technology and management functions.

Lecture 00 hours. Laboratory 06 hours.

Prerequisite(s): HOSP-1030 Basic Food Preparation, and HOSP-1040 Customer Services, and HOSP-1450 Advanced Food Preparation or concurrent enrollment; or departmental approval: industry-related experience.

HOSP-1670 Food and Beverage Operations II

03 Semester Credits

Focuses on three specific areas of food and beverage operations: marketing and sales, food and beverage service operations and evaluations, and financial operations including use of point of sale system reports to analyze menu, efforts of marketing, and total sales picture of operation.

Lecture 01 hour. Laboratory 06 hours.

Prerequisite(s): HOSP-1030 Basic Food Preparation, and HOSP-1040 Customer Services; or departmental approval: industry related experience.

HOSP-1800 Special Topics in Hospitality Management

1-3 Semester Credits

HOSP-181T Special Laboratory Topics in Hospitality Management

1-3 Semester Credits

Specialized three-hour lab per credit.

HOSP-1860 Hospitality Practicum and Seminar

03 Semester Credits

Supervised on-site work experience in the student's area of specialization. Students are required to function in a variety of workstations to reinforce learned classroom/lab skills. Seminars on employability skills, resumes, appearance, situations which occur during the practicum, and related subjects. May be repeated up to three times with departmental approval.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 14 hours per week. Seminar: 1 hour per week.

Prerequisite(s): HOSP-1010 Introduction to the Hospitality Industry; HOSP-1020 Sanitation and Safety; HOSP-1030 Basic Food Preparation; HOSP-1040 Customer Services; and departmental approval: work site approval.

HOSP-2300 Facilities Design and Maintenance

02 Semester Credits

Introduction to knowledge needed for clear communication with those in charge of maintenance and engineering departments, lodging and food service facilities. Survey of blueprint reading; basic elements of electrical systems and appliance; plumbing and waste systems; heating principles; refrigeration; ventilation and air conditioning; building transportation systems; swimming pools; sound and pollution controls; energy conservation. Planning and evaluation of facilities and selection of appropriate equipment. Field trips may be required.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): HOSP-1010 Introduction to the Hospitality Industry; and HOSP-1020 Sanitation and Safety; and HOSP-1030 Basic Food Preparation; and HOSP-1040 Customer Services.

HOSP-2350 Restaurant Operations

03 Semester Credits

Practical application of learned food preparation and presentation skills. Hands-on skill development within a simulated in-house restaurant kitchen setting with exposure to each kitchen position. Students prepare foods to order and for buffet presentation.

Lecture 00 hours. Laboratory 09 hours.

Prerequisite(s): HOSP-1450 Advanced Food Preparation or concurrent enrollment.

HOSP-2380 Hospitality Marketing and Sales

03 Semester Credits

Provides hospitality management students with solid background in principles of hospitality sales, advertising, and marketing. Textbook's main focus on strategies and sales techniques for selling to targeted market with emphasis on planned profits.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): HOSP-1010 Introduction to the Hospitality Industry.

HOSP-2400 Hospitality Management and Supervision

03 Semester Credits

Analysis of hospitality operations through use of terminology, theories, and principle. Special emphasis placed on evolution of management thought, commitment to quality and productivity in various environments that affect practice of management and supervision. Through experiences and practical application, concepts will focus on standards and procedures for selection, training, and development of human resources in hospitality industry.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): HOSP-1010 Introduction to the Hospitality Industry; or departmental approval: admission to or Hospitality Management Program, or related work experience.

HOSP-2480 Hospitality Law

03 Semester Credits

Provides awareness of rights and responsibilities that the law grants to or imposes upon hospitality operations, and illustrates possible consequences of failure to satisfy legal obligations. Discussion includes contracts, property-guest relationship, frauds, employment laws, anti-trust regulations, food and beverage sales, wage and hour standards, social security and income tax withholding requirements, tax/tip reporting, and immigration laws.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): HOSP-1010 Introduction to the Hospitality Industry.

HOSP-2500 Hospitality Cost Control

03 Semester Credits

Addresses lodging, tourism, and food and beverage industry procedures to help control food, beverage, labor costs and sales income in food and beverage operations. Analysis of factors that serve as base for decision-making and improvement of operations that result in increased profits. Use of developing technology related to spreadsheets and other cost control aids.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): HOSP-2700 Hospitality Purchasing; and ACCT-1020 Applied Accounting; or departmental approval: work experience or prior business courses in related subjects.

HOSP-2550 Baking Production and Sales II

03 Semester Credits

Building on theoretical and practical foundations of "Baking Production and Sales I", students will develop advanced skills and knowledge in production and selection of quality handcrafted and purchased products. Scientific principles and experimental methods explored and additional emphasis placed on advanced decorating and finishing techniques, chocolate work, candies, sugar works, presentation methods, menu development and costing. Students required to do production for community events and contests.

Lecture 01 hour. Laboratory 06 hours.

Prerequisite(s): HOSP-1020 Sanitation and Safety, and HOSP-1551 Baking Production and Sales I; or departmental approval: industry-related experience.

HOSP-2580 Convention Management and Meeting Planning

02 Semester Credits

Defines scope and segmentation of convention and group business market, describes marketing and sales strategies to attract markets with specific needs, and explains techniques to meet those needs as part of meeting and convention planning and service.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): HOSP-2380 Hospitality Marketing and Sales, or departmental approval: related work experience.

HOSP-2650 Restaurant Management Experience

04 Semester Credits

Capstone course in Culinary Art and Restaurant/Food Service Management. Practice of management supervisory skills in an in-house simulated restaurant. Students present a portfolio with emphasis on accomplishments and preparation as a career professional. Portfolios are reviewed by industry, faculty and staff.

Lecture 00 hours. Laboratory 09 hours.

Other Required Hours: Seminar: 1 hour per week.

Prerequisite(s): HOSP-2350 Restaurant Operations; HOSP-2400 Hospitality Management and Supervision; HOSP-1650 Dining Room Operations or HOSP-1670 Food and Beverage Operations II; and HOSP-2500 Hospitality Cost Control, or concurrent enrollment.

HOSP-2700 Hospitality Purchasing

02 Semester Credits

[formerly HOSP-1700]

Principles for purchasing supplies, equipment, food and beverages, and contract services for the hospitality industry. Exploration of government regulations, industry standards, product availability, economic concerns, supplier relationships, and the marketplace. Practice applications of purchase orders, bidding specifications, computer assisted ordering and inventory controls.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): HOSP-1020 Sanitation and Safety; and HOSP-1030 Basic Food Preparation.

HOSP-2800 Special Advanced Topics in Hospitality Management

1-3 Semester Credits

HOSP-281T Special Advanced Laboratory Topics in Hospitality Management

1-3 Semester Credits

Specialized three-hour lab per credit.

HOSP-2860 Lodging and Tourism Management Experience Practicum

04 Semester Credits

Capstone course in Lodging-Tourism Management. On-site observation and work experience in variety of job areas in Lodging or Tourism industry, with emphasis on practice of technical supervisory skills. Corresponding seminar presentation and discussion of current industry issues included. Student portfolios reviewed by industry professionals with emphasis on preparedness as career professional.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 14 hours per week.

Seminar: 2 hours per week.

Prerequisite(s): HOSP-2400 Hospitality Management and Supervision; and departmental approval: approved work site.

HOSP-2870 Food and Beverage Management Experience

04 Semester Credits

Capstone course in Restaurant/Food Service Management. On-site observation and work experience in a variety of job areas in food and beverage areas of hospitality industry with emphasis on practice of technical supervisory skills. Presentation and discussion of current issues pertinent to the industry. Special emphasis evaluation of student accomplishments and preparedness to enter industry as a career professional. Seminar and culmination of on-going portfolio with review by industry, faculty, and staff representatives.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 14 hours per week.

Seminar: 2 hours per week.

Prerequisite(s): HOSP-2400 Hospitality Management and Supervision, and departmental approval: approved site.

HOSP-2990 Advanced Culinary Skills and Evaluation

02 Semester Credits

Capstone course in Culinary Art. Practice preparation of contemporary haute cuisine or modern fine foods using professional recipes. Review of culinary skills learned in previous courses, and guided practice of selected culinary skills. Demonstration of learned professional skills with completion of special project. Review skills with practical application and presentation of Garde Manger station in making pates, terrines and galantines, truffle over-lay, chaud-froid, carving of edible and non-edible showpieces and garnishes, and aspics. Culminating evaluation of culinary skills based on standards established by American Culinary Federation and current industry standards. ACF Certification exam for Certified Culinarian.

Lecture 00 hours. Laboratory 06 hours.

Prerequisite(s): HOSP-2350 Restaurant Operations or concurrent enrollment; and HOSP-1551 Baking Production and Sales I.

Human Services - HS

HS-1300 Introduction to Human Services

03 Semester Credits

Survey of historical and philosophical developments and their effects on Human Services. Introduction to contemporary Human Services delivery systems. Development of client-centered Human Services interventions. Emphasis on understanding Human Services within context of culturally/ethnically diverse urban environment.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

HS-1310 Issues in Chemical Dependency I

02 Semester Credits

Introduction to current concepts, theoretical models and research used by practitioners to understand total ecology of chemically dependent individual. Examination and explorations of psychological, social and cultural lifestyle aspects of chemical dependency as applied to multicultural and special populations.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): HLTH-1300 Health and Medical Aspects of Chemical Dependency.

HS-1320 Issues in Chemical Dependency II

02 Semester Credits

Examination of models and theories used in prevention strategies. Study of levels of prevention, methods, strategies, legal aspects, social and community resources available to prevent chemical dependency and relapse.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): HLTH-1300 Health and Medical Aspects of Chemical Dependency.

HS-1400 Group Work in the Human Services

02 Semester Credits

Introduction to group work. Investigation of group work theories, different types of groups, group dynamics, stages of group process, group facilitation, participant role/influences, and group counseling techniques. Cooperative learning and role playing incorporated into learning experience.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Concurrent enrollment in HS-1850 Introduction to Human Services Principles and Practices, or departmental approval: assessment by program coordinator.

HS-1410 Diagnostic Tools and Advocacy Strategies

02 Semester Credits

Introduction to signs and symptoms of behaviors associated with mental illness, using DSM IV. Knowledge and limitations of psychotropic and related medications. Identification of criteria to qualify consumers for services. Discussion of networking strategies. Development of advocacy strategies based on integration of course material.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

HS-1420 Legal Issues

02 Semester Credits

Basic legal issues and policies affecting consumers of mental health and substance addiction services. Exploration of Ohio Revised Code Statutes relating to probate commitment, retention, release, due process, patient's rights, forensics, confidentiality and privacy act. Discussion of recent court decisions pertaining to mental health and substance addiction legal issues.

Lecture 02 hours. Laboratory 00 hours. Prerequisite(s): None.

HS-1800 Special Topics in Human Services

1-3 Semester Credits

HS-181P Special Topics Practicum in Human Services

2-3 Semester Credits

Practicum in special areas of Human Services. Experiences will vary as interest arises in field of Human Services. Repeatable. No more than six credits of special topics courses may be applied toward fulfilling elective graduation degree requirements.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 7-14 hours per wk.

Seminar: 1 hour per week.

Prerequisite(s): Faculty counterparts determine appropriate prerequisite/corequisite for each topic.

HS-1820 Independent Study in Human Services

1-3 Semester Credits

HS-1850 Introduction to Human Services Principles and Practices

05 Semester Credits

Principles and practices of Solution Focused/Brief Therapy Theory. Development of behavioral observation, assessment and assertiveness skills. Emphasis on developing cooperative relationships with clients and practicum supervisor. Introduction to community support process and managed care system. Demonstration of ethical and culturally sensitive interventions at practicum site. Supervised practicum of seven hours per week with emphasis on orientation, data collection, documentation, interpretation of behavior, and decision making relating to individuals and social systems.

Lecture 03 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 7 hours per week.

Seminar: 1 hour per week.

Prerequisite(s): HS-1300 Introduction to Human Services, or departmental approval: equivalent coursework.

HS-2310 Issues in Chemical Dependency III

02 Semester Credits

Review of physical, cultural, social and psychological aspects of chemical dependency. Examination of various methods of intervention, assessment, case management, referrals and community resources which help chemically dependent persons maintain sobriety. Emphasis on proper use of assessment tools, diagnosis, dimensions of treatment, and proper documentation.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): HLTH-1300 Health and Medical Aspects of Chemical Dependency.

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HS-2320 Issues in Chemical Dependency IV

02 Semester Credits

Examination of roles, skills, knowledge and ethics necessary for a career in field of Chemical Dependency. Personal inventory of one's skills, knowledge and boundary issues. Special emphasis on twelve core functions, global criteria and ethical standards necessary in chemical dependency field. Students demonstrate assertiveness, advocacy and stress management techniques and skills.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): HLTH-1300 Health and Medical Aspects of Chemical Dependency.

HS-2410 Family Systems

02 Semester Credits

Principles of family dynamics. Introduction to family intervention strategies. Development of human service skills to service families. Explore range of services available to families. Reporting policies, requirements and processes.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

HS-2420 Intervention Strategies

02 Semester Credits

Introduction to intervention strategies with individuals, groups and community. Focus on range of human service populations and service issues. Includes prevention, early intervention, crisis intervention and recovery strategies.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

HS-2510 Human Services Systems

02 Semester Credits

Development of Systems Approach to human service delivery, with emphasis on macro and micro systems. Exploration of formal and informal systems. Development of skills to evaluate existing human services in community. Client advocacy. Development of assessment skills for individuals and families through use of genogram and ecological mapping tools.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): HS-1850 Introduction to Human Services Principles and Practices.

HS-2520 Case Management in the Human Services

02 Semester Credits

Practice in development of skills in assessment, planning, coordination intervention, maintenance, and referral as integral part of case management. Emphasis on oral and written communication as pertains to case management.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): HS-1850 Introduction to Human Services Principles and Practices.

HS-2530 Proposal Writing and Program Development

02 Semester Credits

Fundamentals of proposal writing and program development. Students will develop grant proposal that meets funding criteria.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

HS-2800 Special Advanced Topics in Human Services

1-3 Semester Credits

HS-281P Special Advanced Topics Practicum in Human Services

2-3 Semester Credits

Practicum in special advanced areas of Human Services. Experiences will vary as interest arises in field of Human Services. Repeatable. No more than six credits of special topics courses may be applied toward fulfilling elective graduation degree requirements.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 7-14 hours per week.

Seminar: 1 hour per week.

Prerequisite(s): Faculty counterparts determine appropriate prerequisite/corequisite for each topic.

HS-2820 Independent Advanced Study in Human Services

1-3 Semester Credits

HS-2850 Human Services Principles and Practices I

05 Semester Credits

Develop basic skills of time management. Application of time management skills to student's personal schedule. Investigation of therapeutic theories of laughter and playfulness. Research and practice in development of preventive measures in Human Services. Participation in practicum experience.

Lecture 02 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 14 hours per week.

Seminar: 1 hour per week.

Prerequisite(s): HS-1850 Introduction to Human Services Principles and Practices; or concurrent enrollment in HS-2510 Human Services Systems; or departmental approval: equivalent coursework or experience.

HS-2860 Human Services Principles and Practices II

03 Semester Credits

Continuation of practicum experience. Focus on client within existing service delivery system.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 14 hours per week.

Seminar: 1 hour per week.

Prerequisite(s): HS-2850 Human Services Principles and Practices I.

HS-2990 Human Services Capstone

02 Semester Credits

Capstone course in Human Services. Assessment of one's knowledge, experience and skills as Human Service worker. Preparation and presentation of qualifications through written resume and portfolio. Guidelines and preparation for employment interview. Investigation into Human Services issues.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): HS-2850 Human Services Principles and Practices I.

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Humanities - HUM

HUM-1010 Introduction to Humanities

03 Semester Credits

Examines creative enterprise in human cultures through the study of great works of art and literature. Lectures, performances, exhibits, and multi-media presentations.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): None.

HUM-1020 The Individual in Society

03 Semester Credits

Introduction to works of art, philosophies, and scientific views that portray, explain, and evaluate positions and interactions of individuals in society. Lectures, performances, exhibits, and multi-media presentations.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): None.

HUM-1030 The Individual in the Cosmos

03 Semester Credits

Introduction to works of art, philosophies, religions, and scientific views that portray, explain, and evaluate individual's search for meaning in cosmos. Lectures, performances, exhibits, and multi-media presentations.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): None.

HUM-1100 Leadership Development Studies

03 Semester Credits

Introduction to theories and ethics of group dynamics in leadership styles through study of classic and contemporary writings. Internationally recognized course, designed by Phi Theta Kappa. Lectures, discussions, and experiential learning exercises.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

HUM-175H Honors Forum: Critical Issues

03 Semester Credits

Analysis of contemporary critical issues through their roots in past and present social, philosophical, and political attitudes and literature. Topics may vary with each offering, lecture, discussion, guest presentation, and multi-media presentation.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-101H Honors College Composition I, or departmental approval.

HUM-1800 Special Topics in Humanities

1-3 Semester Credits

HUM-1820 Independent Study/Research in Humanities

1-3 Semester Credits

Information Technology - IT

IT-1000 Keyboarding

02 Semester Credits

[formerly OADM-1010]

Mastery of alphabetic and numeric keyboard using touch system. Formatting, speed and skill development, and keying basic business documents emphasized. Minimum goal of 30 words a minute with not more than five errors on a three-minute timed writing. Instruction on microcomputer.

Lecture 01 hour. Laboratory 02 hours. Prerequisite(s): None.

IT-1010 Introduction to Microcomputer Applications

03 Semester Credits

[formerly CS-1020/OADM-1020]

Overview and introduction to techniques and skills used on the microcomputer in a Windows environment. Skill development in microcomputer operating system, basic business office software and electronic communications. Practical applications in creating, editing, saving, and printing computer generated materials. Introductory level instruction and hands-on training in file management, word processing, computerized spreadsheets, database management software, presentation graphics, electronic mail and Internet.

Lecture 02 hours. Laboratory 02 hours. Prerequisite(s): None.

IT-1020 Information Technology Concepts

02 Semester Credits

[formerly CS-1020]

Broad overview of concepts necessary for success in the field of Information Technology. Topics include computer architecture, software classifications, data representations, communication systems, networking, programming concepts, systems analysis and design, and security issues. Course will provide historical perspective of IT developments, knowledge of career opportunities in information systems, and overview of the future of information technologies.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): IT-1010 Introduction to Microcomputer Applications, or concurrent enrollment.

IT-1030 Internet Fundamentals

02 Semester Credits

[formerly CS-1030]

Hands-on instruction in use of the Internet and World Wide Web. Software tools and techniques used to search, retrieve and create internet documents. File downloading, e-mail, search engines and web page design included.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): Concurrent with IT-1010 Introduction to Microcomputer Applications, or departmental approval.

IT-1040 Microcomputer Operating Systems

03 Semester Credits

[formerly CS-1320]

Overview of microcomputer operating systems and their role in hardware, software and data management. Hands-on skill development in use of current microcomputer operating system.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): IT-1020 Information Technology Concepts or concurrent enrollment; or departmental approval: equivalent knowledge or skills.

IT-1050 Programming Logic

03 Semester Credits

[formerly CS-1350]

Language-independent course introducing computer program design and development. Identification and solution of business problems emphasized. Structured flow charts, hierarchy charts and pseudocode used in program description and design.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): IT-1020 Information Technology Concepts or concurrent enrollment.

IT-1060 Introduction to Windows

02 Semester Credits

[formerly OADM-1060]

In-depth study of graphical user interface using Windows operating environment. Emphasis on windowing concepts and commands, running application programs, managing files and transferring data. Application programs, Windows utilities, file managing and data transfer.

Lecture 01 hour. Laboratory 02 hours. Prerequisite(s): None.

IT-1070 Advanced Internet Concepts

03 Semester Credits

Networking technologies that make up the internet.

Management of processes using the internet, building Web sites utilizing HTML editor, and management of client personal computers connected to the internet.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): IT-1030 Internet Fundamentals.

IT-1800 Special Topics in Information Technology

01-03 Semester Credits

IT-181S Special Laboratory Topics in Information Technology

01-03 Semester Credits

Specialized two-hour lab per credit.

IT-181T Special Laboratory Topics in Information Technology

01-03 Semester Credits

Specialized three-hour lab per credit.

IT-1820 Independent Study/Research in Information Technology

01-03 Semester Credits

IT-2300 Database Use and Design

03 Semester Credits

[formerly CS-1410]

Study in electronic database concepts and software as used in a business environment. Database theory, design and implementation techniques. Problem solving strategies using database software for accurate and timely storage, retrieval and interpretation of data.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): IT-1010 Introduction to Microcomputer Applications, or departmental approval: equivalent experience.

IT-2700 Systems Analysis and Design

03 Semester Credits

[formerly CS-2700]

Overview of systems development life cycle. Emphasis on documentation through use of both classical and structured tools and techniques for describing process flow, data flows, data structures, file designs, input and output designs, and program specifications. Discussion of information gathering and reporting activities and on strategies and techniques for producing logical methodologies which deal with complexity in development of information systems.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): BADM-1020 Introduction to Business, and ITMF-1500 Application Program Development I: COBOL, or ITMP-2620 Visual Basic Programming

IT-2800 Special Advanced Topics in Information Technology

01-03 Semester Credits

(See page X-5 for course description.)

IT-281S Special Advanced Laboratory Topics in Information Technology

01-03 Semester Credits

Specialized two-hour lab per credit.

IT-281T Special Advanced Laboratory Topics in Information Technology

01-03 Semester Credits

Specialized three-hour lab per credit.

IT-2820 Independent Advanced Study/Research in Information Technology

01-03 Semester Credits

IT-2830 Cooperative Field Experience

01-03 Semester Credits

Information Technology (Information Application Specialist) - ITAP

ITAP-1200 Word Processing I

03 Semester Credits

[formerly OADM-2300]

Basic and intermediate techniques and skills using word processing software applied to practical business applications.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): IT-1000 Keyboarding, or departmental approval: equivalent proficiency.

ITAP-1220 Speed Building

02 Semester Credits

[formerly OADM-1030]

For individuals with ability to type by touch. Focuses on improving speed and accuracy in keyboarding at the microcomputer. May be repeated; only 2 credits may be applied to degree requirements.

Lecture 01 hour. Laboratory 02 hours. Prerequisite(s): None.

ITAP-1230 Basic Business Formatting

03 Semester Credits

[formerly OADM-1310]

Formatting and keying business letters, interoffice memorandums, tables, business forms, outlines, and advanced reports containing footnotes/endnotes with emphasis on word processing techniques. Minimum goal of 45 words a minute with not more than 5 errors on a 5-minute timed writing. Instruction on the microcomputer. Course assumes student demonstrates touch typing.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): IT-1000 Keyboarding, or departmental approval.

ITAP-1240 Basic Filing with Microcomputer Applications

03 Semester Credits

[formerly OADM-1040]

Fundamentals of records, including basic rules for filing, five basic methods, and records handling from creation to destruction or archival storage. Includes study of electronic office filing, micrographics, electronic media, and optical storage. Applications on microcomputer.

Lecture 02 hours. Laboratory 02 hours. Prerequisite(s): None.

ITAP-1250 Electronic Spreadsheet Use and Design

03 Semester Credits

[formerly CS-1400 and OADM-1050]

Study of electronic spreadsheet concepts and software as used in a business environment. Spreadsheet theory, design and implementation techniques. Problem solving strategies using spreadsheet software for accurate and timely storage, retrieval and interpretation of data.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): IT-1010 Introduction to Microcomputer Applications, or departmental approval: comparable knowledge or skills.

ITAP-2200 Word Processing II

03 Semester Credits

Study and application of advanced text editing features of word processing software as applied to complex business documents. Includes document assembly, advanced merge techniques, sort, forms, complex tables and columns, math functions, styles, outlines, templates, macros, graphics, and web applications.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): ITAP-1200 Word Processing I, or departmental approval: equivalent proficiency.

ITAP-2270 Desktop Publishing

03 Semester Credits

[formerly OADM-2310]

Hands-on applications using desktop publishing software package. Application of desktop publishing techniques and design concepts, applied to a variety of business publications. Course assumes prior word processing experience/knowledge.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): ITAP-1200 Word Processing I, or departmental approval: comparable knowledge or skills.

INFORMATION TECHNOLOGY (Mainframe Programming) - ITMF

ITMF-1310 Internal Computer Functions

02 Semester Credits

[formerly CS-1310]

Examines popular modes of data representation and numbering systems (including EBCDIC, ASCII, zoned, packed, hex notation, binary, hexadecimal). Discusses primary addressing modes in computers and the various data and file structures employed. Reviews system and application software, types and uses of language translators.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): IT-1020 Information Technology Concepts or concurrent enrollment; or departmental approval: equivalent knowledge or skills.

ITMF-1500 Application Program Development I: COBOL

05 Semester Credits

[formerly CS-1501]

Introduction to computer programming using current program development techniques and COBOL language within mainframe environment. Batch programs developed based on given program specifications, involving sequential/entry sequence files. Includes data definitions, data movement, calculations, editing data, table loading and processing, internal sorting, and multiphase programs.

Lecture 04 hours. Laboratory 02 hours.

Prerequisite(s): IT-1050 Programming Logic, or concurrent enrollment.

ITMF-2530 Application Program Development II: COBOL, CICS

05 Semester Credits

[formerly CS-2530]

Intermediate level applications programming course that applies and builds on concepts, skills and competencies previously studied. Programs created using current program development techniques, COBOL language, and CICS, all within mainframe environment. Batch and on-line transaction processing programs developed based on given specifications, involving several file access techniques. Includes creating and updating various types of files, system sorts, report writer, use of system libraries, unformatted and formatted terminal input and output processing.

Lecture 03 hours. Laboratory 04 hours.

Prerequisite(s): ITMF-1500 Application Program Development I: COBOL; or departmental approval: comparable knowledge or skills.

ITMF-2550 Application Program Development III: COBOL, CICS, SQL

05 Semester Credits

[formerly CS-2550]

Capstone course in Information Technology (Mainframe Programming). Advanced level applications programming course that applies and builds on concepts, skills, and competencies previously studied. Programs created using current program development techniques, COBOL language, CICS, and SQL, all within mainframe environment. On-line transaction processing programs and interactive queries developed based on given specifications. Involves indexed file techniques and relational databases. Includes on-line transaction processing with formatted terminal input and output, on-line update of files, program

to program communication, file browsing, relational database creation and maintenance, interactive queries and embedded SQL.

Lecture 03 hours. Laboratory 04 hours.

Prerequisite(s): ITMF-2530 Applications Program Development II: COBOL, CICS; or departmental approval: comparable knowledge or skills.

ITMF-2610 Assembly Language Programming

04 Semester Credits

[formerly CS-2610]

Computer programming, using current program development techniques and an assembly level language. Batch programs developed based on given program specifications involving sequential/entry sequence files. Includes computer internal structure and addressing, data representation codes, number systems, machine instruction formats, dumps, register usage, data definitions, data movement, data editing, calculations, table processing, creating files, and multiphase programs.

Lecture 03 hours. Laboratory 02 hours.

Prerequisite(s): IT-1050 Programming Logic, or departmental approval: equivalent experience or skills.

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Information Technology (Microcomputer Specialist) - ITMP

ITMP-2620 Visual Basic Programming

04 Semester Credits

[formerly CS-2620]

Introduction to object-oriented programming in windows environment using Visual Basic programming language. Emphasis on program development and design, application of logic in both user-defined and event-driven procedures, debugging techniques, and basics of Visual Basic syntax.

Lecture 03 hours. Laboratory 02 hours.

Prerequisite(s): IT-1050 Programming Logic, or departmental approval: equivalent experience or skills.

ITMP-2630 Advanced Visual Basic Programming

04 Semester Credits

[formerly CS-2630]

Continuation of visual basic programming. Covers advanced language features and techniques to develop more complex programs. Includes database access programming and integration with other applications.

Lecture 03 hours. Laboratory 02 hours.

Prerequisite(s): ITMP-2620 Visual Basic Programming, and IT-2300 Database Use and Design; or departmental approval: equivalent experience or skills.

ITMP-2650 Java Programming

04 Semester Credits

Introduction to object-oriented programming using the Java programming language. Students will learn how to design, code and debug Java applications and applets. Other topics will include GUI components, event handling, and exception handling.

Lecture 03 hours. Laboratory 02 hours.

Prerequisite(s): IT-1050 Programming Logic, or departmental approval: equivalent experience or skills.

ITMP-2670 C/C++ Programming Language

04 Semester Credits

[formerly CS-2670]

Introduction to programming using the C and C++ programming languages, emphasizing program development and design, debugging techniques, and common basics of the C/C++ languages. Topics include data types, control statements, functions, argument passing, arrays, strings, structures, data files, and classes.

Lecture 03 hours. Laboratory 02 hours.

Prerequisite(s): IT-1050 Programming Logic, or departmental approval: equivalent experience or skills.

ITMP-2990 Microcomputer Project

03 Semester Credits

[formerly CS-2500]

Capstone course in Information Technology (Microcomputer Specialist). Primary focus on development of comprehensive term project integrating microcomputer applications/languages. Includes structured systems development strategies and techniques.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ITAP-1250 Electronic Spreadsheet Use and Design; IT-2300 Database Use and Design; and IT-2700 Systems Analysis and Design; or departmental approval: equivalent knowledge or skills.

Information Technology (Networking Software) – ITNT

ITNT-2300 Network Fundamentals

03 Semester Credits

[formerly CS-2400]

Overview of computer network environment capabilities and limitations. Provides hands-on exploration of network operations in a lab environment. Emphasis on network management, shared resources and control commands.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): IT-1040 Microcomputer Operating Systems; or MIT-1100 Computer Applications & Programming and EET-2140 Digital Circuits/Microprocessors II; or departmental approval: equivalent experience or skills.

ITNT-2310 TCP/IP

03 Semester Credits

Provides knowledge and skills required to setup, configure, use, and support Transmission Control Protocol/Internet Protocol (TCP/IP). Emphasis on Microsoft Windows operating system. Discussions of TCP/IP in Novel and CISCO environments also included.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): ITNT-2300 Networking Fundamentals or concurrent enrollment, or departmental approval: equivalent knowledge or skills.

ITNT-2320 Network Administration I

03 Semester Credits

Provides knowledge and skills necessary to perform post-installation and day-to-day administration tasks in a single-domain or multiple-domain Microsoft Windows-based network. Includes creating and administering system policies, user and group accounts, setup and administering files, folders and printers, managing and monitoring network resources and troubleshooting. How to install and configure windows, network transport protocols, network services, and client software also covered.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): ITNT-2300 Networking Fundamentals or concurrent enrollment, or departmental approval: equivalent knowledge or skills.

ITNT-2330 System Administration for SQL Server

03 Semester Credits

Provides knowledge and skills required to install, configure, administer, and troubleshoot Microsoft SQL Server client/server database management system. Topics include security, managing files and databases, backup and restoring databases, transferring and migrating data and monitor performance.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): ITNT-2420 Network Administration II or concurrent enrollment, or departmental approval: equivalent knowledge or skills.

ITNT-2340 NetWare Administration I

03 Semester Credits

Focus on fundamental network management tasks such as setting up and managing network access for users, printing with Novell Distributed Print Services, managing file system and security, creating and managing login scripts, managing NDS security, distributing and managing network applications with Z.E.N. works, managing resources in a multi-context environment and installing NetWare.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): ITNT-2300 Networking Fundamentals or concurrent enrollment, or departmental approval: equivalent knowledge and skills.

ITNT-2350 Microsoft Exchange Server: Concepts and Administration

03 Semester Credits

Provides Exchange Server administrators with skills required to perform day-to-day management of an established Exchange Server organization. Topics include administration and security strategies; configuring Exchange Server, message receipts, address lists and accounts, message tracking, server locations, and link and server monitors; managing security, users, distribution lists, directories and public and private information stores; and backup and restoring Exchange server.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): ITNT-2320 Network Administration I, or departmental approval: equivalent knowledge or skills.

ITNT-2360 Microsoft Internet Information Server

03 Semester Credits

Provides knowledge and skill on supporting various features of Microsoft Internet Information Server (IIS). Topics include how to install, configure, and implement all components that comprise IIS such as WWW Service, FTP Service, SMTP Service, NNTP Service, and security features. Hands-on experience setting up a web site.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): ITNT-2320 Network Administration I, and ITNT-2310 TCP/IP; or departmental approval: equivalent knowledge or skills.

ITNT-2420 Network Administration II

03 Semester Credits

Focus on designing, implementing, and supporting the Windows Server network operating system in a multiple-domain enterprise environment. Implementing directory services, analysis and optimization, and troubleshooting are discussed.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): ITNT-2320 Network Administration I, or departmental approval: equivalent knowledge or skills.

ITNT-2440 NetWare Administration II

03 Semester Credits

Information on how to design, configure and administer a complex NetWare network. Topics include upgrading from a previous version of NetWare, migrating to a NetWare DPS, executing Java-based utilities, network backup and configuring NetWare for remote access.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): ITNT-2340 NetWare Administration I, or departmental approval: equivalent knowledge or skills.

ITNT-2990 Networking Capstone

03 Semester Credits

Capstone course in Networking (Hardware and Software degree programs). Primary focus on developing and responding to request for proposals, and determining and presenting solutions to various networking environments. Uses case studies and teamwork.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): To be taken within the last 15 credits of the IT (Networking Software) or the EET (Networking Hardware) degree programs, or departmental approval.

Information Technology (Web Page Development and Maintenance) – ITWM

ITWM-1010 Creating Web Pages with HTML and JavaScript

03 Semester Credits

Description of networking technologies that make up the Internet. Introduces how to manage processes using the Internet, build Web sites utilizing an HTML editor, and understand management of client PCs connected to the Internet.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): IT-1050 Programming Logic, and IT-1030 Internet Fundamentals or concurrent enrollment.

ITWM-2030 Active Server Pages

04 Semester Credits

Instruction in Active Server Page (ASP) technology for developing interactive, data-driven Web applications. Covers converting databases from Access to SQL Server and working with arrays, collections and control structures.

Lecture 03 hours. Laboratory 02 hours.

Prerequisite(s): ITWM-1010 Creating Web Pages with HTML and JavaScript, and ITWM-2320 Interactive Internet Programming; or ITMP-2620 Visual Basic Programming, and IT-2300 Database Use and Design; or departmental approval.

ITWM-2320 Interactive Internet Programming

04 Semester Credits

Introduction to interactive object-oriented programming in an Internet environment. Emphasis on program development and design, application of logic to effect Web page interactivity through the use of procedures, debugging techniques, and basics of language syntax.

Lecture 03 hours. Laboratory 02 hours.

Prerequisite(s): IT-1050 Programming Logic, or departmental approval: equivalent experience or skills.

ITWM-2990 E-Commerce Technologies

03 Semester Credits

Capstone course in Web Page Development and Maintenance. Basics of conducting business online; technical issues associated with constructing and implementing an electronic commerce Web site. Similarities and differences between traditional and electronic commerce, role each participant plays, technologies used to place orders and process payments, legal issues, and security protections offered for Web-based businesses and their customers. Examines various strategies and solutions available for building electronic commerce sites, administration of those sites, and integration of data into an existing infrastructure.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): BADM-1020 Introduction to Business, and ITWM-1010 Creating Web Pages with HTML and JavaScript.

Interior Design - INTD

INTD-1110 Introduction to Interior Design

01 Semester Credit

Introduction to interior designs with emphasis on design elements and sources. Exploration of the field for employment with areas of specialization.

Lecture 01 hour. Laboratory 00 hours. Prerequisite(s): None.

INTD-1800 Special Topics in Interior Design

1-3 Semester Credits

INTD-181T Special Laboratory Topics in Interior Design

1-3 Semester Credits. Specialized three-hour lab per credit.

INTD-1820 Independent Study in Interior Design

1-3 Semester Credits

INTD-2300 Interior Design Studio I

03 Semester Credits

Introduction of functional space planning through design of residential projects. Emphasis on problem solving and exploring multiple design solutions.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): INTD-1110 Introduction to Interior Design, ARCH-1410 Architectural Drafting and CAD I, ART-1060 Drawing II, and ART-1090 Visual Design II.

INTD-2320 History of Interiors

03 Semester Credits

History of development of furnishings, ornaments, interiors and architectural details from Egyptian through prominent 20th century movements to present.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ART-1020 Art History I.

INTD-2330 Interior Design Materials and Sources

03 Semester Credits

Reviews various interior furnishings, finishes, and materials through lectures, field trips, and research assignments. Information presented on furniture sources, showroom functions, and criteria for specifying elements of interior spaces.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): INTD-1110 Introduction to Interior Design.

INTD-2350 Textiles

03 Semester Credits

Study of natural and manufactured fibers; aesthetics, application, function, and technical aspects. Lectures and field trips cover fabric construction, physical properties and technology in textile industry.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): INTD-1110 Introduction to Interior Design, or departmental approval: comparable knowledge or skills.

INTD-2380 Fundamentals of Lighting

03 Semester Credits

Principles and techniques of lighting design and application in interior space. Light measurement, sources, specifications, color and light, and terminology along with calculations of light in interior environment.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): INTD-1110 Introduction to Interior Design; and INTD-2300 Interior Design Studio I or concurrent enrollment.

INTD-2400 Interior Design Studio II

03 Semester Credits

Considers advanced problems in commercial interiors with concepts in advancement and application of planning techniques. Emphasis on research and analysis of existing structures, building constraints, accessibility, and furnishing and materials specifications.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): INTD-2300 Interior Design Studio I.

INTD-2430 Architectural Materials and Methods

03 Semester Credits

Materials and methods presented on building construction, emphasizing wood, concrete unit masonry and light steel construction. Projects include working drawings and interpretations, field trips to construction sites, and fabricating plans.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): ARCH-1410 Architectural Drafting and CAD I.

INTD-2460 Interior Design Presentation

03 Semester Credits

Rendering techniques stressed to communicate design concepts. Focuses on perspective rendering skills, performance of three dimensional space, and mixed media. Quick sketch techniques and computer use for residential and commercial interiors.

Lecture 01 hour. Laboratory 06 hours.

Prerequisite(s): ARCH-1410 Architectural Drafting and CAD I; ART-1060 Drawing II; ART-1090 Visual Design II; and concurrent enrollment in INTD-2400 Interior Design Studio II.

INTD-2470 Professional Practice of Interior Design

03 Semester Credits

Business practices for production of residential and commercial interior design projects to completion. Operation, communications, and legal responsibilities along with resumes, interviews, and business conduct presented.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): INTD-1110 Introduction to Interior Design, or departmental approval: comparable knowledge or skills.

INTD-2800 Special Advanced Topics in Interior Design

1-3 Semester Credits

INTD-281S Special Advanced Laboratory Topics in Interior Design

1-3 Semester Credits. Specialized two-hour lab per credit.

INTD-281T Special Advanced Laboratory Topics in Interior Design

1-3 Semester Credits. Specialized three-hour lab per credit.

INTD-2820 Independent Advanced Study in Interior Design

1-3 Semester Credits

INTD-2850 Interior Design Practicum

03 Semester Credits

Capstone course in Interior Design. Students are placed in a practical work environment under College supervision. Interaction with professionals in the field and application of skills and knowledge gained in the classroom required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 210 hours per semester at assigned site.

Seminar: 15 hours per semester.

Prerequisite(s): INTD-1110 Introduction to Interior Design, and concurrent enrollment in INTD-2470 Professional Practice of Interior Design; or departmental approval.

Italian - ITAL

ITAL-1010 Beginning Italian I

04 Semester Credits

Introduction to Italian through multiple approaches emphasizing speaking and understanding. Practice in conversational Italian and aural comprehension on topics of daily interest. Practice in writing basic sentences and small simple paragraphs on relevant topics and reading short paragraphs.

Lecture 03 hours. Laboratory 02 hours. Prerequisite(s): None.

ITAL-1020 Beginning Italian II

04 Semester Credits

Development of proficiency in speaking, understanding, reading, and writing in Italian. Emphasis on strengthening conversational skills through discussions of selected readings and cultural topics.

Lecture 03 hours. Laboratory 02 hours.

Prerequisite(s): ITAL-1010 Beginning Italian I, or one year of high school Italian; or departmental approval.

ITAL-1100 Italian Intercultural Perspectives

03 Semester Credits

Study of Italian image and contribution to world culture and various nation-shaping events throughout history from Roman times to present, with particular emphasis on shaping of United States of America. Cultural presence of Italy in United States.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

ITAL-1800 Special Topics in Italian

1-3 Semester Credits

ITAL-2010 Intermediate Italian I

03 Semester Credits

Increased vocabulary development and structural review through readings of cultural texts. Emphasis on oral expression and group discussions. Intensive exercises in written and oral expression. Grammar review and vocabulary building.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ITAL-1020 Beginning Italian II, or two years of high school Italian; or departmental approval.

ITAL-2020 Intermediate Italian II

03 Semester Credits

Intensive exercises in written and oral expression in Italian with emphasis on conversation. Further improvements of written skills. Reading of selected texts in order to deepen understanding and appreciation of Italian culture.

Additional grammar review and vocabulary building.

Further exploration of Italian literature.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ITAL-2010 Intermediate Italian I, or two years of high school Italian; or departmental approval.

ITAL-2410 Italian Conversation and Composition

03 Semester Credits

Development of proficiency in speaking, understanding, reading, and writing. Emphasis on strengthening conversational skills through discussions of selected readings and cultural topics and more conversational opportunities. Discussion of topics of everyday life, colloquialisms, vocabulary augmentation, and improvement of speech patterns. Practice in writing compositions. Emphasis on group discussion.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ITAL-2020 Intermediate Italian II or concurrent enrollment, and departmental approval: three years of high school Italian.

ITAL-2420 Italian Civilization, Culture and Literature

03 Semester Credits

Introduction to civilization and literature of Italy. Emphasis on interrelationship between history and geography of Italy and its culture.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ITAL-2410 Italian Conversation and Composition or concurrent enrollment, and departmental approval: three years of high school Italian.

ITAL-2800 Special Advanced Topics in Italian

1-3 Semester Credits

ITAL-2820 Independent Advanced Study in Italian

1-3 Semester Credits

Japanese - JAPN

JAPN-1010 Beginning Japanese Language and Culture I 04 Semester Credits

Introduction to modern Japanese. Listening, speaking, reading, writing, and basic grammatical structures, with emphasis on appropriate social use of the language within Japanese culture. Hiragana, katakana, and 75-100 kanji. Basics of kanji dictionaries. Presented through class interaction, audio, video, and computer lab instruction. *Lecture 03 hours. Laboratory 02 hours. Prerequisite(s): None.*

JAPN-1020 Beginning Japanese Language and Culture II 04 Semester Credits

Continued study of modern Japanese in social and cultural context. Emphasis on listening comprehension and speaking regarding practical daily transactions. Reading basic, graded texts and writing simple compositions, integrating basic grammatical structures, hiragana, katakana, and 100-150 new kanji. Acquiring speed in referring to kanji dictionaries. Class interaction, audio, video and computer lab. *Lecture 03 hours. Laboratory 02 hours. Prerequisite(s): JAPN-1010 Beginning Japanese Language and Culture I; or departmental approval.*

JAPN-1800 Special Topics in Japanese 1-3 Semester Credits

JAPN-2010 Intermediate Japanese Language and Culture I 04 Semester Credits

Continued study of modern Japanese in social and cultural context. Listening and speaking skills necessary for basic function and communication in Japanese society. Reading functional, intermediate, graded texts and writing brief compositions and personal correspondence, integrating intermediate grammatical structures and 150-200 new kanji. Class interaction, audio, video, and computer lab. *Lecture 03 hours. Laboratory 02 hours. Prerequisite(s): JAPN-1020 Beginning Japanese Language and Culture II, or departmental approval.*

JAPN-2020 Intermediate Japanese Language and Culture II 04 Semester Credits

Continued study of modern Japanese in social and cultural context. Emphasis on communicative listening and speaking skills. Discussion of topics on Japanese culture and society. Reading and writing longer texts and compositions expressing more complex ideas, integrating 150-200 new kanji. Completion of Japanese grammar foundation. Class interaction, audio, video, and computer lab. *Lecture 03 hours. Laboratory 02 hours. Prerequisite(s): JAPN-2010 Intermediate Japanese Language and Culture I, or departmental approval.*

JAPN-2410 Advanced Japanese Language and Culture I 03 Semester Credits

Modern Japanese in social and cultural context. Development of focused listening comprehension and conversational skills. Discussion of cultural and business topics in Japanese. Reading selected literary materials texts. Introduction to formal writing style and its structural differences. Writing formal letters and brief essays. Introduction of 200-250 new kanji. Class interaction, audio, video, and computer lab. *Lecture 02 hours. Laboratory 02 hours. Prerequisite(s): JAPN-2020 Intermediate Japanese Language and Culture II, or departmental approval.*

JAPN-2420 Advanced Japanese Language and Culture II 03 Semester Credits

Modern Japanese in social and cultural context. Further development of focused listening and conversation skills. Discussion of aspects of Japanese politics and economy. Reading authentic texts such as periodicals, short stories, and novel excerpts. Writing journal entries and compositions of 200-400 characters. Introduction of 200-250 new kanji. Class interaction, audio, video, and computer lab. *Lecture 02 hours. Laboratory 02 hours. Prerequisite(s): JAPN-2410 Advanced Japanese Language and Culture I, or departmental approval.*

JAPN-2800 Special Advanced Topics in Japanese 1-3 Semester Credits

JAPN-2820 Independent Advanced Study in Japanese 1-3 Semester Credits

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Journalism and Mass Communications - JMC (formerly Journalism - JOUR)

JMC-1010 Introduction to Mass Communication

04 Semester Credits

Nature and function of mass media: print, television, radio and film. Impact and influence on individuals in a democratic society.

Lecture 04 hours. Laboratory 00 hours. Prerequisite(s): None.

JMC-1210 Introduction to Radio and Television

03 Semester Credits

(formerly JMC-2210)

Survey of radio and television industry and its impact on contemporary society with critical study of broadcast programming including production, direction and writing.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): JMC-1010 Introduction to Mass Communication.

JMC-1310 Film Appreciation

03 Semester Credits

(formerly ART-140)

Introduction to aspects of film including script, directing and elements of cinematography. Includes survey of film history and criticism. Class views masterpieces from a number of countries.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

JMC-1410 Staff Practice

01 Semester Credit

Class laboratory experience in assembling, making-up and publishing College newspaper. Detailed weekly analysis of effectiveness of news stories written and published and overall presentation of College newspaper. Students assigned to College newspaper staff.

Lecture 00 hours. Laboratory 02 hours.

Prerequisite(s): Concurrent enrollment in JMC-2010 News Writing, or departmental approval: comparable knowledge or skills.

1610 Survey of the Black Press

03 Semester Credits

Nature and function of Black press including broadcast, with emphasis on history and function of Black press and impact of Black press on minorities in general. Special attention on career opportunities for minorities and problems of black journalist working with general press.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

JMC-1800 Special Topics in Journalism and Mass Communications

1-3 Semester Credits

JMC-1820 Independent Study in Journalism and Mass Communications

1-3 Semester Credits

JMC-2010 News Writing

04 Semester Credits

News gathering and writing for print media. Emphasis on basic structure of news story and writing against deadline. Survey of career opportunities in print and broadcast journalism. Principal ethical, policy and legal questions confronting reporters and their newspapers.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I, or departmental approval: comparable knowledge or skills.

JMC-2020 News Reporting

04 Semester Credits

Emphasis on problems of news gathering using community as laboratory. Interpretive reporting. Attention to needs of wide variety of types of newspapers and to journalistic specialties.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): JMC-2010 News Writing.

JMC-2030 News Editing

04 Semester Credits

Copy desk methods. Copy and proofreading, headline writing, newspaper makeup and style. Introduction to newspaper law, including libel, right to privacy and press privileges. Editorial writing, problems and policy.

Examination of major contemporary American newspapers.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): JMC-2010 News Writing.

JMC-2220 Broadcast Journalism

03 Semester Credits

News reading, news preparation, news reporting on audiotape, videotape and live camera for television and radio. Covers Federal Communications Commission rules and regulations on news. Fundamentals of what makes a story and how to get it. Art of interviewing. Field work, study of radio and television history.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): JMC-1010 Introduction to Mass Communication.

JMC-2410 Television Production

03 Semester Credits

Introduction to basic concepts of video production. Emphasis on operation of video cameras, microphone placement, lighting, editing and post-production equipment. Teamwork and group production emphasized.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): JMC-1010 Introduction to Mass Communication, or departmental approval: comparable knowledge or skills.

JMC-2420 Advanced Television Production

03 Semester Credits

Advanced television production and operations, to include hands-on training with studio and field equipment. Theories and processes of producing and directing video programs, including script writing, visualization, personnel management and budgeting. Includes multi-camera and single-camera production, video editing techniques. Teamwork and group production emphasized.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): JMC-2410 Television Production.

Course Descriptions

Fall 2001 – Summer 2003 Catalog

JMC2-470 Motion Picture Production

03 Semester Credits

(formerly THEA-282)

Introduction to motion picture production techniques. Students design, shoot and edit their own projects.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): JMC-1010 Introduction to Mass Communication, or departmental approval: comparable knowledge or skills.

JMC-2480 Radio Broadcast Production

03 Semester Credits

(formerly THEA-290 and 291)

Basic principles of production and programming including training and development in basic performance areas. Study of contemporary radio station programming theories and techniques.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): JMC-1010 Introduction to Mass Communication, or departmental approval: comparable knowledge or skills.

JMC-2800 Special Advanced Topics in Journalism and Mass Communication

1-3 Semester Credits

JMC-281S Special Advanced Laboratory Topics in Journalism and Mass Communication

1-3 Semester Credits

Specialized two-hour lab for credit.

JMC-281T Special Advanced Laboratory Topics in Journalism and Mass Communication

1-3 Semester Credits

Specialized three-hour lab per credit.

JMC-2820 Independent Advanced Study in Journalism and Mass Communications

1-3 Semester Credits

JMC-2830 Cooperative Field Experience

1-3 Semester Credits

Latin - LAT

LAT-1010 Beginning Latin I

04 Semester Credits

Introduction to Latin through multiple approaches with emphasis on comprehension of basic and some complex grammar. Use of language lab and analysis of English vocabulary.

Lecture 03 hours. Laboratory 02 hours.

Prerequisite(s): None.

LAT-1020 Beginning Latin II

04 Semester Credits

Continued study of Latin language. Development of proficiency in reading, writing, and speaking. Emphasis on reading classical works.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): LAT-1010 Beginning Latin I, or departmental approval.

Course Descriptions

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Law Enforcement – LAWE

LAWE-1000 Introduction to Criminal Justice

03 Semester Credits

History and philosophy of criminal justice in America; review system, identification of subsystems, role expectations, and relationships. Theory of crime, punishment, and rehabilitation. Ethics, education, and training required in law enforcement, nature of formal and informal decision making in criminal justice, sociology, politics, economics, and law of criminal justice.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

LAWE-1010 Computers in Criminal Justice

02 Semester Credits

Introduction to uses and applications of computer technology in criminal justice field. Includes discussions of basic terminology; common applications in database, word processing, and spreadsheet uses; and an introduction to World Wide Web. Comprehensive examination of computer crimes and procedures, techniques, and legal constraints which apply.

Lecture 02 hours. Laboratory 00 hours. Prerequisite(s): None.

LAWE-1050 Introduction to Security

02 Semester Credits

Historical perspective on development of security with definition of current role and function. Studies in fundamental principles of risk assessment, physical plant security, defense systems, internal security, fire prevention and disaster preparedness in security field.

Lecture 02 hours. Laboratory 00 hours. Prerequisite(s): None.

LAWE-1070 Introduction to Corrections

02 Semester Credits

Introduction to processes, procedures and issues in contemporary corrections. History and evolution of various elements of juvenile and adult correction systems.

Lecture 02 hours. Laboratory 00 hours. Prerequisite(s): None.

LAWE-1110 Constitutional Law for Police

03 Semester Credits

Development of Federal Constitution and history of Bill of Rights. In-depth analysis of First, Fourth, Fifth, Sixth, Eighth and Fourteenth Amendments. Impact of recent court decisions on these amendments and their implications for criminal justice officials.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

LAWE-1120 Criminal Court Procedure

02 Semester Credits

Exploration of U.S. adversary system of criminal justice. Examine components including legislature, police, prosecution, courts and corrections. Comprehensive review of procedures, beginning with arrest through post-trial motions and sentencing.

Lecture 02 hours. Laboratory 00 hours. Prerequisite(s): None.

LAWE-1130 Criminal Evidence

02 Semester Credits

Overview of trial procedures: classification of evidence, proof, presumptions, relevance, eyewitness identification, testimonial privileges, character, hearsay, impeachment, scientific evidence, collection and preservation of evidence.

Lecture 02 hours. Laboratory 00 hours. Prerequisite(s): None.

LAWE-1300 Patrol Operations

04 Semester Credits

Examination of techniques required in performing patrol function. Covers preparation, vehicle patrol, foot patrol, crimes in progress, prowler calls, building searches, performance of stops and approaches, vehicle identification, and prisoner booking and handling. Incorporates report writing required of police officers. Discussion of various types of forms and reports necessary and methods for accurate completion. Use and structure of field notes, investigative report form and content, and use of proper grammar in narrative reports.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): LAWE-1000 Introduction to Criminal Justice, or departmental approval: comparable knowledge or skills.

LAWE-1310 Traffic Enforcement and Investigation

03 Semester Credits

Examination of traffic accident investigation, traffic enforcement and other control procedures utilized in highway transportation system. Comprehensive study of traffic enforcement principles, problems, and procedures and how traffic accident investigation program relates to traffic enforcement program. Investigation of accident scene and methods for enforcement of specific driving violations.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): LAWE-1000 Introduction to Criminal Justice, or departmental approval: comparable knowledge or skills.

LAWE-1320 Ethics in Criminal Justice

02 Semester Credits

Police conduct is examined relative to ethical and legal principles. Application of federal and state civil, criminal and administrative law.

Lecture 02 hours. Laboratory 00 hours. Prerequisite(s): None.

LAWE-1330 Criminal Law

03 Semester Credits

Nature of the criminal act, essential elements, theories of responsibility, overview of common law offenses, and identification of trends in law.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

LAWE-1400 Assets Protection

04 Semester Credits

In-depth study of principles of loss prevention with emphasis on risk management. Examination of concepts of physical security with management systems; physical security requirements; alarm systems; planning and vulnerability assessments.

Lecture 04 hours. Laboratory 00 hours. Prerequisite(s): None.

LAWE-1500 Community Intervention Resources

04 Semester Credits

In-depth survey of community-based resources designed for intervention, prevention and control or rehabilitation of juvenile and adult offender.

Lecture 04 hours. Laboratory 00 hours. Prerequisite(s): None.

LAWE-1800 Special Topics in Law Enforcement

1-3 Semester Credits

LAWE-181S Special Laboratory Topics in Law Enforcement

1-3 Semester Credits. Specialized two-hour lab per credit.

Course Descriptions

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LAWE-181T Special Laboratory Topics in Law Enforcement

1-3 Semester Credits
Specialized three-hour lab for credit.

LAWE-1820 Independent Study in Law Enforcement

1-3 Semester Credits

LAWE-2300 Juvenile Delinquency

02 Semester Credits

Problem of juvenile delinquency, police programs and community resources for prevention of juvenile delinquency presented. Juvenile court organization and procedure, detention, filing, police procedures and enforcement of juvenile code.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): LAW-1000 Introduction to Criminal Justice, or departmental approval: comparable knowledge or skills.

LAWE-2320 Ohio Revised Code

03 Semester Credits

Intensive examination and study of criminal and traffic statutes of Ohio Revised Code. Designed to provide students with ability to recognize specific violations of both criminal and traffic law from elements present in given situation.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): LAW-1000 Introduction to Criminal Justice, or departmental approval: comparable knowledge or skills.

LAWE-2340 Police Management and Supervision

04 Semester Credits

Comprehensive examination of both supervisory and administrative roles in law enforcement environment. Examines supervisory role in leadership development, discipline, motivation, personnel evaluation, human relations, administrative concerns in organizational structure, time management, collective bargaining, conflict and stress management, manpower deployment, civil liability, and employee productivity.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): LAW-1000 Introduction to Criminal Justice, and LAW-1010 Computers in Criminal Justice; or departmental approval: comparable knowledge or skills.

LAWE-2350 Special Issues in Criminal Justice

02 Semester Credits

Review of special and contemporary issues in field of criminal justice. Discussion of varying viewpoints and aspects of problems faced in these fields. Critical and analytical approach used to understand role and relationship of criminal justice system in today's society.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): LAW-1000 Introduction to Criminal Justice, or departmental approval.

LAWE-2360 Community Oriented Policing

03 Semester Credits

Study of evolution of policing. In-depth analysis of origin of community oriented policing. Strategies, concerns, and evolution of community oriented policing. Nature and operations of community policing.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): LAW-1000 Introduction to Criminal Justice, or departmental approval: comparable knowledge or skills.

LAWE-2370 Fire Arm Techniques

03 Semester Credits

For students successfully completing a Basic Police Academy affiliated with Cuyahoga Community College. Units of study include safety techniques, handgun and related equipment, basic fundamentals of pistol craft, one-hand techniques, multiple targets, low light level conditions, use of protective cover, and shotgun training.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): Departmental approval.

LAWE-2380 Defensive Driving

02 Semester Credits

For students successfully completing a Basic Police Academy affiliated with Cuyahoga Community College. Units of study include principles of defensive driving, dangers associated with operating an emergency vehicle, and driving skills.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): Departmental approval.

LAWE-2390 The Investigative Process

04 Semester Credits

Overview of investigative methods including databases and background checks. In-depth look at the criminal investigation process with focus on the crime scene, reports and evidence identification.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): LAW-1000 Introduction to Criminal Justice, or departmental approval: prior equivalent experience.

LAWE-2400 Security Management

04 Semester Credits

Comprehensive examination of organization, staffing, supervision and administration of security function. Concerned with general security management, supervision and operational management along with public relations.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): LAW-1050 Introduction to Security, or departmental approval: prior knowledge or experience.

LAWE-2410 Security Investigation

03 Semester Credits

Intensive examination of investigative function as it relates to private security. Criminal and non-criminal investigations. Study of databanks, surveillance methods, interviews, backgrounds, and report preparation.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): LAW-1050 Introduction to Security, or departmental approval: comparable knowledge or skills.

LAWE-2420 Legal Aspects of Private Security

03 Semester Credits

Study of various Federal and State laws and impact on security management process. In-depth examination of state criminal code as applied to private security.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): LAW-1050 Introduction to Security, or departmental approval: comparable knowledge or skills.

LAWE-2430 Contemporary Security Problems

03 Semester Credits

Analysis of current and special security problems. Provides opportunity for students to select areas of security for individual emphasis. Further study may include banking, retail, industrial, hotel, college and hospital.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): LAW-1050 Introduction to Security, and LAW-1400 Assets Protection; or departmental approval: comparable knowledge or skills.

LAWE-2440 Protection Services

02 Semester Credits

Overview of role of law enforcement officers relative to private sector and loss prevention, asset protection and executive protection. Emphasis on vulnerability assessments, personnel security, physical security and information security.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): LAW-1000 Introduction to Criminal Justice, or departmental approval: prior equivalent experience.

LAWE-2510 Community Supervision and Aftercare

04 Semester Credits

Reviews and examines various aspects of contemporary community-based corrections practices and aftercare programs.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): LAW-1070 Introduction to Corrections, or departmental approval: comparable knowledge and skills.

LAWE-2520 Criminology

03 Semester Credits

Development of criminology, sociology of criminal law, legal order and crime control, and patterns of criminal law. Also deals with social reaction to crime and future crime control in American society.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): LAW-1070 Introduction to Corrections, or departmental approval: comparable knowledge or skills.

LAWE-2530 Correctional Case Management

03 Semester Credits

Application of counseling interview techniques applicable to correctional offender. Field and clinical situations simulated so student can gain experience in interviewing, chronological recording, report writing, and oral presentation of cases.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): LAW-1070 Introduction to Corrections, or departmental approval: comparable knowledge or skills.

LAWE-2540 Corrections: Principles and Practices

03 Semester Credits

Pre-service student placed in criminal justice agency facility under guidance of experienced practitioner. Application of corrections principles. Class time spent in small group discussions of theories and applications.

Lecture 01 hour. Laboratory 00 hours.

Other Required Hours: Practicum: 8 hours per week.

Seminar: 1 hour per week.

Prerequisite(s): LAW-2510 Community Supervision and Aftercare.

LAWE-2800 Special Advanced Topics in Law Enforcement

1-3 Semester Credits

LAWE-281S Special Advanced Laboratory Topics in Law Enforcement

1-3 Semester Credits

Specialized two-hour lab for credit.

LAWE-281T Special Advanced Laboratory Topics in Law Enforcement

1-3 Semester Credits

Specialized three-hour lab per credit

LAWE-2820 Independent Advanced Study in Law Enforcement

1-3 Semester Credits

LAWE-2830 Cooperative Field Experience

1-3 Semester Credits

LAWE-2990 Issues in Supervision

04 Semester Credits

Capstone course in Law Enforcement. Comprehensive review of law enforcement processes, accomplished by looking at role of supervisor and his/her responsibility to the department and community. Further application of law enforcement principles by use of current readings in criminal justice.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: completed 20 credits in Law Enforcement.

Manufacturing/Industrial Technology - MIT

MIT-1100 Computer Applications and Programming

02 Semester Credits

Solving technological problems using microcomputer. Designing and debugging windows-based (16 bits and 32 bits) application software in Microsoft Visual Basic language. Applying designed software programs in technological problem solving. Programming spreadsheets and database application and development of front-end applications for spreadsheets and data base software using Microsoft Visual Basic. Course content updated as necessary to include additional functions in new versions of Microsoft Visual Basic.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): Eligibility for MATH-1160 Technical Mathematics I, or departmental approval: work experience.

MIT-1200 Engineering Drawing

02 Semester Credits

Visualization skills utilized in application of principles and practices of orthographic projection and pictorial sketching and drawing. Applied geometry, use of scales, sections, and auxiliary views as applied to technical drawings.

Dimensioning standards and conventions as related to detail and assembly drawings. Role that technical drawings play in relationships to processes of production and manufacturing along with design process studied.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): Eligibility for MATH-1160 Technical Mathematics I, or departmental approval: work experience.

MIT-1220 Introduction to AutoCAD

02 Semester Credits

Introduction to computer-assisted drafting (CAD). Student learns to operate CAD system as tool of drafting. Develops drafting capabilities by combining existing manual drafting skills and concepts with intricacies of CAD software. Student should be able to apply basic and intermediate CAD commands to draw and edit engineering drawings. Provides basic overview of necessary computer knowledge needed to operate IBM compatible computer. Student becomes familiar with special terms and definitions used in computer-assisted drafting.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): MIT-1200 Engineering Drawing or concurrent enrollment, or ARCH-1410 Architectural Drafting and CAD I or concurrent enrollment; or departmental approval: work experience.

MIT-1250 Materials and Machine Tools

03 Semester Credits

Basic knowledge of behavior and characteristics of metals and other materials used in industry, their structure, physical, mechanical and chemical properties. Includes polymers, ceramics and composites. Special emphasis on detailed study of traditional and contemporary methods of metals machining. Laboratory experiences include fundamentals of machine tool setup and operation, precision measurement techniques. Turning, milling and grinding operations.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): Eligibility for MATH-1160 Technical Mathematics I, or departmental approval: work experience.

MIT-1300 Metallurgy and Manufacturing Processes

03 Semester Credits

Quantitative analysis and interpretation of microstructures in metals and metal alloys. Heat treatment of ferrous and non-ferrous materials and steel, crystallization structure and phase diagram. Metallographic microscope, micro hardness, tensile testing, and charpy impact test. Manufacturing processes including foundry, hot and cold metal forming, extraction, welding, and machining. Surface protection processes, cleaning, painting, electroplating, galvanizing and anodizing.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): MIT-1200 Engineering Drawing; and MIT-1250 Materials and Machine Tools or concurrent enrollment; or departmental approval: work experience.

MIT-1600 CNC Programming

03 Semester Credits

Fundamentals of computers and computer applications as aid to manufacturing processes. Emphasis on blueprint analysis, using trigonometry and other forms of mathematics to determine programming points; ascertaining implied part dimensions; determination of machining parameters: calculation of speeds; feeds and tool offset; establishment of work zero and tools home positions. Manual programming of computer numerical control (CNC) machines using G-codes; tooling and set-up of CNC lathes and milling machines for machining operations; verification of toolpaths by simulation; operating CNC machines to produce mechanical parts.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): MIT-1250 Materials and Machine Tools or concurrent enrollment; and MIT-1220 Introduction to AutoCAD or concurrent enrollment.

MIT-1800 Special Topics in Manufacturing/Industrial Technology

1-3 Semester Credits

MIT-2000 CAD/CAM I

03 Semester Credits

(formerly MIT-1700)

Geometric modeling, using selected CAD/CAM packages to graphically model parts in 2D, 3D wire-frame and solid; graphic display manipulation; geometric analysis; graphic and data files management; exchange and conversion of graphic files to standardized formats such as DXF, IGES. Generating G-codes, postprocessing G-codes into formats interpretable by given CNC controllers. Editing G-codes with verification of validity of toolpaths in 3D and solid graphical simulation. Downloading path programs into CNC's MCU; tooling and setting up parts on CNC lathe and milling machines. Operating CNC machines to produce parts.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): MIT-1250 Materials and Machine Tools or concurrent enrollment, and MIT-1600 CNC Programming or concurrent enrollment.

Course Descriptions

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MIT-2030 Industrial Drawing Essentials

03 Semester Credits

[formerly MIT-1550]

Analysis and application of drawing symbols, terminology, and notes as applied to mechanical drawings for industrial processes. Topics include working drawings, geometric dimensioning and tolerancing, drawing notes and revisions, and specialized drawing interpretation.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): MIT-1200 Engineering Drawing, and MET-1100 Technology Orientation.

MIT-2040 Industrial CAD I

03 Semester Credits

[formerly MIT-1950]

Advanced engineering drawing concepts used with computer-aided drafting software. Drawing applications include size tolerancing, thread specifications and standardized drawing formats. Isometric drawing and 3D wireframe models introduced as a component for Industrial CAD II course.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): MIT-1220 Introduction to AutoCAD, or departmental approval: work experience.

MIT-2051 Industrial CAD II

03 Semester Credits

Capstone course for Drafting Technology. Application of computer using drafting/design software as tool for industrial drafting. Complete set of production drawings created using 2D and 3D drawing environments. Principles of parametric design, welding joint description and functional assemblies directly applied. Emphasis tailored to 3D modeling for enhanced part description. Students work on individual design projects to stimulate their spatial abilities and problem-solving techniques.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): MIT-1250 Materials and Machine Tools, and MIT-2040 Industrial CAD I; or departmental approval: work experience.

MIT-2100 Advanced Machine Tools

03 Semester Credits

Advanced machining processes with additional experience in setup and operation of standard machine tools; more complex turning, milling, grinding, band sawing operations with shop maintenance and shop safety. Turning operations include taper turning, machine lathe internal and external threading, and boring. Milling includes gears, gang and straddle milling. Further topics cover electron discharge machine (EDM), laser, electronmechanical machining, ultrasonic machining and water jet cutting.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): MIT-1200 Engineering Drawing, and MIT-1250 Materials and Machine Tools.

MIT-2150 Motion and Time Study

03 Semester Credits

Motion and time study of operations to create cost consciousness desired in reducing operations or production costs. Detailed analysis of work methods for improvement. Developing best work methods by identifying motions, limits of motions and basic motion times. Applying predetermined time standard system (PTSS) in analyzing work methods. Identifying and applying methods of work sampling and measurement. Using motion and time study to aid cost estimating, wage and incentive planning.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): MATH-1160 Technical Mathematics I, or departmental approval: work experience.

MIT-2200 Computer Integrated Manufacturing

03 Semester Credits

Capstone course for Manufacturing/Industrial Technology, basic program. Analysis of computer integrated manufacturing (CIM) system. Emphasis on computer aided design (CAD) computer-aided production engineering (CAPE), computer-aided production planning (CAPP), computer-aided manufacture (CAM), and computer-aided transportation and storage (CATS). Other sub-components of CIM and CIM strategies, such as CIM design rules, general interface rules, data and data communication, sensor and graphic systems, flow charting conventions and selection process.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): MIT-1100 Computer Applications and Programming.

MIT-2220 Advanced AutoCAD

03 Semester Credits

Advanced AutoCAD software concepts are learned using computer-aided drafting software. Advanced applications include: drawing template files and profiles, slides, OLE, DDE, Bill of material extraction, External References. Prerequisite knowledge will be utilized with Autolisp/Visual Lisp, Internet use, OLE and visual basic applications. Customizing will be stressed by including command, windows and menu changes.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): MIT-1220 Introduction to AutoCAD, MIT-1100 Computer Applications and Programming.

MIT-2400 Statistical Process Control

03 Semester Credits

Application of statistical quality control technique in analysis of data for control of process quality and quality cost. Using measures of central tendencies and measures of dispersion, problem solving techniques, pareto charts, histograms, polygons, control charts, sampling procedures and probability theories as decision making tools for process and quality control.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): MATH-1360 Technical Mathematics II, or departmental approval: work experience.

Course Descriptions

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MIT-2700 CAD/CAM II

03 Semester Credits

Parametric and non-parametric geometric modeling; graphic display manipulation; geometrical analysis; graphic and data files management; exchange and conversion of graphic files to standardized formats such as DXF, IGES; 3D wire-frame modeling; solid modeling (CSG or B-Reps) using SolidWorks and other CAD software; surface modeling (Lofting, Sweeping, Blending) using SolidWorks and SurfCam. Generating G-codes using SurfCam and MasterCam packages and other CAM software. Postprocessing G-Codes into formats interpretable by given CNC controllers; editing G-Codes and verification of validity of toolpaths in Solid-3D graphical simulation; tooling and setting up of parts on CNC lathe and milling machines; downloading of path programs to MCU. Operating CNC machines to produce parts.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): MIT-2000 CAD/CAM I.

MIT-2730 Introduction to Manufacturing Management

03 Semester Credits

Basic planning for manufacturing costs and materials. Management of work force, production and inventory. Personnel and public relations. Basic sequence of manufacturing, automatic and computer integrated manufacturing. Safety and protection of employees and company property. Occupational Safety and Health Act.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): MIT-2150 Motion and Time Study, or departmental approval: work experience.

MIT-2740 Quality Manufacturing

03 Semester Credits

Total quality management and leadership; application of statistical quality; quality cost; reliability; computers and quality; customer satisfaction; employee involvement and other quality control tools.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): MIT-2150 Motion and Time Study, or departmental approval: work experience.

MIT-2800 Special Advanced Topics in Manufacturing/ Industrial Technology

1-3 Semester Credits

MIT-2830 Cooperative Field Experience

1-3 Semester Credits

Marketing - MARK

MARK-1800 Special Topics in Marketing

1-3 Semester Credits

MARK-1820 Independent Study in Marketing

1-3 Semester Credits

MARK-2010 Principles of Marketing

03 Semester Credits

Introduction to basic principles of marketing involved in selling of goods and services. Focus on marketing mix which includes creation of product, pricing, channels of distribution, and promotion.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): BADM-1020 Introduction to Business; or GCMT-2471 Internet/WWW Publishing I, or concurrent enrollment; or departmental approval: comparable knowledge or skills.

MARK-2020 Principles of Salesmanship

03 Semester Credits

Skill development in techniques used by successful professional sales persons. Sales management also addressed in context of self management and organizational management.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): MARK-2010 Principles of Marketing, or concurrent enrollment in INTD-2300 Interior Design Studio I; or departmental approval: comparable knowledge or skills.

MARK-2110 Introduction to World Trade

03 Semester Credits

Overview of world trade with examination of foreign environments (economic, cultural, and legal) in which global companies operate. Study of documents and procedures required to import and export goods; international transportation modes; payments and collections.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): MARK-2010 Principles of Marketing, or departmental approval: previous coursework and/or experience.

MARK-2120 Import/Export Procedures and Documentation

03 Semester Credits

Procedures and documentation required for import and export activities. Includes shipment of goods and payment for foreign sales, rules for importing cargo into the U.S., and Customs regulations and processes.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): MARK-2010 Principles of Marketing, or departmental approval: previous coursework and/or experience.

MARK-2130 International Payments, Credits and Collections

03 Semester Credits

Procedures and regulations for payments, credits, and collections in international business. Topics include banking procedures, currency exchange, international payment terms and conditions, and letters of credit.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): MARK-2010 Principles of Marketing, or departmental approval: previous coursework and/or experience.

MARK-2240 Effective Selling Practices

03 Semester Credits

Advanced course in professional selling. Student must have minimal selling skills to be improved. Various selling environments will be explored as well as in-depth consumer behavior patterns analyzed. Role playing, case analysis and research will serve to evaluate.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): MARK-2020 Principles of Salesmanship.

MARK-2260 Sales Promotion and Public Relations

03 Semester Credits

Study of promotion methods and techniques supplementary to advertising and personal selling. Focus on both consumer and trade promotions. Topics include publicity and public relations, trade shows and exhibits, point-of-purchase displays, couponing, contests, sweepstakes, rebates and premiums.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): MARK-2010 Principles of Marketing.

MARK-2270 Principles of Advertising

03 Semester Credits

Introduction to advertising as element of promotion mix in marketing. Focuses on strategic, quantitative, and creative processes by which advertising message is planned and produced.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): MARK-2010 Principles of Marketing.

MARK-2500 Business-to-Business/Organizational Marketing

03 Semester Credits

Principles and practices involved in marketing of materials, equipment, supplies, and services to organizational markets, such as manufacturers, resellers, service providers, institutions, and the government. Focus on unique characteristics of organizational market and how to profitably sell in this market by developing proper marketing mix. Includes product management, pricing policies, channels of distribution, and promotional practices.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): MARK-2010 Principles of Marketing.

MARK-2660 Sales Management

03 Semester Credits

Strategic sales planning, implementation, and controlling ongoing sales program. Market assessment, staffing, and training included. Case study and practical applications enhance learning process.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): MARK-2010 Principles of Marketing.

MARK-2800 Special Advanced Topics in Marketing

1-3 Semester Credits

MARK-2820 Independent Advanced Study in Marketing

1-3 Semester Credits

MARK-2830 Cooperative Field Experience

1-3 Semester Credits

MARK-2990 Marketing Case Analysis

01 Semester Credit

Capstone course in Marketing program. Students will analyze, critique, and make recommendations for a variety of marketing situations which are presented in a case format. Individually and in teams, students will utilize a standard business decision-making/problem-solving model to apply the marketing skills and knowledge gained in prior marketing courses.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): MARK-2010 Principles of Marketing, and 12 additional credit hours in Marketing courses or concurrent enrollment; or departmental approval.

Course Descriptions

Fall 2001 – Summer 2003 Catalog

Massotherapy – MT

MT-1100 Introduction to Massotherapy

03 Semester Credits

Survey of massotherapy. History of massage; theory and principles of massage, including basic physiological effects, therapeutic applications, contraindications, indications for referral; scope of practice; code of ethics; credentialing and licensing; law and legislation. Training will also provide hands-on demonstrations by instructor regarding some of the basic techniques of massage.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

MT-1240 Fundamentals of Somatic Studies for Massage Therapists I

04 Semester Credits

Study of human anatomy and physiology for students of massotherapy. Specific emphasis on developing student's understanding of fundamental concepts of human body – chemical, cellular, integumentary, skeletal, articulations, muscular and nervous systems.

Lecture 03 hours. Laboratory 03 hours. Prerequisite(s): None.

MT-1270 Fundamentals of Somatic Studies for Massage Therapists II

04 Semester Credits

Study of human anatomy and physiology for students of massotherapy. Specific emphasis on fundamental concepts of spinal cord, nerve plexus, brain, sensory and motor pathways, special senses, autonomic nervous system, basic neurological laws, endangerment sites, endocrine, cardiovascular, lymphatic, respiratory, digestive, metabolism, urinary and acid-base balance.

Lecture 03 hours. Laboratory 03 hours.

Prerequisite(s): MT-1240 Fundamentals of Somatic Studies for Massage Therapists I, or departmental approval: comparable knowledge or skills.

MT-1301 Massotherapy I

03 Semester Credits

Study and practice of manipulations of massage according to Kellogg, including passive touch, pressure touch and nerve compression, stroking (effeurage), friction, kneading (petrissage), vibration and percussion (tapotement). Supplementary study and practice of manipulations of massage according to Fritz. Students learn basic full-body massage, proper hygiene and sanitation practices, how to position and drape client, and how to develop good body mechanics.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): MT-1240 Fundamentals of Somatic Studies for Massage Therapists I, and MT-1100 Introduction to Massotherapy; or departmental approval.

MT-1310 Applied Musculo-Skeletal Anatomy

03 Semester Credits

Extensive practice in learning to palpate all bony landmarks of trunk and extremities; muscle, ligament, and tendon palpation by clinical zones. Introduction to postural analysis with practice in taking and interpreting postural measurements.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): MT-1240 Fundamentals of Somatic Studies for Massage Therapists I, and MT-1301 Massotherapy I or concurrent enrollment; or departmental approval.

MT-1320 Functional Assessment in Massage Therapy

03 Semester Credits

Recognizing and assessing common structural and postural deviations and common soft tissue injury to muscle, tendon, joint capsule, ligament, bursa, fascia and nerve in order to determine appropriateness of massage therapy.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): MT-1301 Massotherapy I, and MT-1310 Applied Musculo-Skeletal Anatomy, and concurrent enrollment in MT-1330 Massotherapy II; or departmental approval.

MT-1330 Massotherapy II

03 Semester Credits

Introduction to postural analysis: taking and interpreting postural measurements. Joint movements and range of motion assessment. Techniques to lengthen and stretch musculature. Methods to stabilize the pelvis. Massage of special regions according to Kellogg.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): MT-1320 Functional Assessment in Massage Therapy or concurrent enrollment, and MT-1301 Massotherapy I.

MT-1400 Overview and Assessment in Geriatric Massage Therapy

03 Semester Credits

Overview of major concepts that comprise the study of geriatric massage therapy. Includes demographic information and economic issues. Provides framework for understanding older adults and effects of massage. Application of geriatric assessment, cautions and contraindications and geriatric practice.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): MT-1301 Massotherapy I, and MT-1320 Functional Assessment in Massage Therapy or concurrent enrollment; or departmental approval.

MT-1800 Special Topics in Massotherapy

1-3 Semester Credits

MT-181T Special Laboratory Topics in Massotherapy

1-3 Semester Credits

Specialized three-hour lab per credit.

MT-1820 Independent Study in Massotherapy

1-3 Semester Credits

MT-2301 Pathology for Massage Therapists

03 Semester Credits

Introduction to disease and basic mechanisms of disease for massage therapists. Diseases of skin, musculoskeletal system, nervous and endocrine systems. Other diseases to include cardiovascular, lymphatic, respiratory, digestive, urinary, reproductive, and immune systems. Role of stress in disease, mental, emotional and genetic.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): MT-2310 Advanced Massotherapy I or concurrent enrollment, or MT-2400 Geriatric Massage Techniques or concurrent enrollment; and MT-1270 Fundamentals of Somatic Studies for Massage Therapists II; or department approval.

Course Descriptions

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MT-2310 Advanced Massotherapy I

03 Semester Credits

Documentation for massage therapy sessions through S.O.A.P. (subjective, objective, assessment, plan) charting; interviewing and observational skills; use of thermal agents in massage therapy; theory and practice of trigger point and myofascial release therapy.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): MT-2301 Pathology for Massage Therapists or concurrent enrollment, or departmental approval.

MT-2330 Advanced Massotherapy II

03 Semester Credits

Continuation of trigger point therapy theory and practice, pelvic stabilization techniques, assessment and treatment of lower back, hip and lower extremities, and assessment and treatment of neck, facial muscles, shoulder, chest and upper back. Treatment modalities to include cranio-sacral, deep tissue, manual lymphatic drainage, applied kinesiology, oriental and subtle healing approaches.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): MT-2310 Advanced Massotherapy I, or departmental approval.

MT-2341 Massotherapy Practicum

03 Semester Credits

Massage of patients under supervision integrating interviewing, observational and massage therapy skills. Completion of S.O.A.P. notes on every patient seen.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 14 hours per week.

Seminar: 1 hour per week.

Prerequisite(s): MT-1330 Massotherapy II or concurrent enrollment.

MT-2400 Geriatric Massage Techniques

03 Semester Credits

Study and practice of Geriatric Massage Techniques including effleurage, petrissage, friction, tapotement vibration, rocking and shaking, skin rolling and ROM. Supplementary study and practice of geriatric massage to include effects of massage, anatomy and massage, muscles on the back, arm, gluteal muscles, muscles of the thigh and leg, and critical areas in the lower limb. Chronic conditions in the elderly. Students learn the basic geriatric massage techniques, evaluation process, preparing the treatment, and position problems.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): MT-2301 Pathology for Massage Therapists or concurrent enrollment, and MT-2410 Health and Aging or concurrent enrollment.

MT-2410 Health and Aging

02 Semester Credits

Examination of normal and expected age-related physiological changes. Emphasis on understanding normal structure and function of body systems, changes as part of aging, and typical abnormal pathological conditions commonly observed in older individuals. Focus on disease prevention and wellness. Survey of theories and principles of geriatric massage in normal and abnormal aging.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): MT-1400 Overview and Assessment in Geriatric Massage Therapy, and MT-2400 Geriatric Massage Techniques or concurrent enrollment.

MT-2700 Comprehensive Somatic Studies for Massage Therapists

02 Semester Credits

Comprehensive study to summarize human anatomy and physiology for students of massotherapy. Special emphasis on review of key concepts of human body – its introduction, six levels of organization and eleven systems of the body. Students will develop an in-depth knowledge of anatomy and physiology of human body. Series of intensive training sessions and mock exams prepare students for State Medical Board of Ohio licensure exam. Student must pass comprehensive exam given at end of course in order to be recommended for State Medical Board of Ohio licensure exam.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: completion of all course work necessary to sit for the State Medical Board Exam.

MT-2800 Special Advanced Topics in Massotherapy

01-03 Semester Credits

MT-281T Special Advanced Laboratory Topics in Massotherapy

01-03 Semester Credits

Specialized three-hour lab per credit.

MT-2851 General Massage Practicum

03 Semester Credits

Massage of patients under supervision integrating interviewing, observational and massotherapy skills. Completion of S.O.A.P. notes on every patient seen. Seminar to include group discussion of lab work.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 14 hours per week.

Seminar: 1 hour per week

Prerequisite(s): MT-2341 Massotherapy Practicum.

MT-2861 Geriatric Massage Practicum

03 Semester Credits

Massage of geriatric patients under supervision integrating interviewing, observational and massotherapy skills. Completion of S.O.A.P. notes on every patient seen. Seminar to include group discussion of lab work.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 14 hours per week.

Seminar: 1 hour per week.

Prerequisite(s): MT-2400 Geriatric Massage Techniques, and MT-2410 Health and Aging.

MT-2990 Comprehensive Massotherapy

01 Semester Credit

Capstone course in Massotherapy. Comprehensive review of massage techniques and theory with major focus on writings of Kellogg. Review includes series of intensive training sessions to prepare students for the Ohio State Medical Board exam for licensure. Includes review of topics necessary to ensure success as professional L.M.T.'s. Student must pass comprehensive exam given at end of course in order to be recommended to sit for Ohio Medical Board exam for licensure.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): Departmental approval: completion of all course

Course Descriptions

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Mathematics – MATH

MATH-0800 Developmental Special Topics in Mathematics

1-3 Seminar Credits

Study of selected developmental topics or current issues in mathematics. Provides student an opportunity to explore various topics in greater detail (see Credit Schedule of classes for current offerings). Repeatable for different topics. May not be applied toward elective and/or program graduation degree requirements.

Lecture 01-03 hours. Laboratory 00 hours.

Prerequisite(s): Faculty counterparts determine appropriate prerequisite/corequisite for each topic.

MATH-0910 Basic Arithmetic and Pre-Algebra

03 Semester Credits

Review of basic arithmetic and introduction to algebraic concepts. Includes basic review of whole numbers and decimals, addition, subtraction, multiplication and division of fractions, order of operations, ratio and proportion, percents, the United States and metric systems of measurement, and estimation. Introduction to integers and simple linear equations and some definitions in geometry. Includes applications and activities to build skills in estimation, problem solving, and study techniques.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Sufficient score on assessment test, or departmental approval.

MATH-0950 Beginning Algebra I

04 Semester Credits

First of two-semester sequence. Includes study of real numbers, basic algebraic operations, linear equations and inequalities, rectangular coordinate system, graphs of linear equations and linear systems. Includes applications and activities to build skills in problem solving.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): Math-0910 Basic Arithmetic and Pre-Algebra, or sufficient score on assessment test; or departmental approval: equivalent coursework.

MATH-0960 Beginning Algebra II

04 Semester Credits

Second of two-semester sequence. Includes simplification and basic operations on polynomials, exponents, factoring, rational expressions, radicals, and quadratic equations. Includes applications and activities to build skills in problem solving.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): MATH-0950 Beginning Algebra I, or sufficient score on assessment exam; or departmental approval: equivalent coursework.

MATH-0980 Intensified Beginning Algebra

05 Semester Credits

Intensive review of basic algebra. Topics include real numbers, basic algebraic operations and simplification of polynomials, factoring, linear equations and inequalities, rectangular coordinate system, solution of linear systems, rational expressions, exponents and radicals, and solutions of quadratic equations. Includes applications and activities to build skills in problem solving.

Lecture 05 hours. Laboratory 00 hours.

Prerequisite(s): Sufficient score on assessment test, or departmental approval: previous algebra class in high school or college.

MATH-1050 Mathematics for Technology

03 Semester Credits

For students in Automotive Technology program. Includes review of the real number system including operations, absolute value and inequalities as well as a study of exponents, algebraic formulas, linear, quadratic, exponential and logarithmic functions, descriptive geometry and descriptive statistics. Applications and techniques of problem solving stressed. Use of the graphing calculator/computer an integral component of the course.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: students in Automotive Technology program, and sufficient score on assessment test or MATH-0950 Beginning Algebra

MATH-1060 Survey of Mathematics

03 Semester Credits

Mathematics in problem solving. Problem solving using the scientific method, algebra, geometry, descriptive statistics, probability and calculator/computer applications.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): MATH-0950 Beginning Algebra I; or MATH-0980 Intensified Beginning Algebra; or sufficient score on assessment test; or departmental approval: equivalent coursework.

MATH-1141 Applied Algebra and Mathematical Reasoning

03 Semester Credits

Applications and activities to build problem solving and mathematical modeling skills. Includes metric system, formula manipulation, graphs and their interpretation, solving algebraic equations and systems, functions, algebraic expressions (rational, radical and exponential), introduction to geometry, descriptive statistics and probability distributions.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): MATH-0960 Beginning Algebra II; or MATH-0980 Intensified Beginning Algebra; or sufficient score on assessment test; or departmental approval: equivalent coursework.

MATH-1160 Technical Mathematics I

04 Semester Credits

First of two-semester sequence for students in engineering technology programs. Stresses relationship of mathematics to engineering applications and development of appreciation of precision in mathematical thought. Topics include review of basic algebra; basic plane geometry; linear, quadratic, trigonometric functions, their graphs and equations; vectors; systems of equations; and exponential and logarithmic functions, their graphs and equations. Emphasis on technology as a tool through the use of graphing calculator/computer.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): MATH-0960 Beginning Algebra II; or MATH-0980 Intensified Beginning Algebra; or sufficient score on the mathematics assessment test; or departmental approval: equivalent coursework.

Course Descriptions

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MATH-1180 Intermediate Algebra for Technologies

04 Semester Credits

Study of algebraic operations, functions, and solving equations; fitting linear, quadratic, power, exponential and logarithmic functions to data and developing predictions from the established function; matrices, systems of equations and inequalities. Applications and techniques of problem solving stressed. Use of graphics calculator/computer an integral part of course.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): MATH-0960 Beginning Algebra II; or MATH-0980 Intensified Beginning Algebra; or sufficient score on assessment test; or departmental approval: equivalent coursework.

MATH-1200 Intermediate Algebra

04 Semester Credits

Algebraic operations; solving linear and quadratic equations and inequalities; lines, inequalities, and their graphs; introduction to conic sections; introduction to functions; systems of linear and non-linear equations; exponential and logarithmic functions; applications and activities to build skills in problem solving; calculator/computer applications.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): MATH 0960 Beginning Algebra II; or MATH-0980 Intensified Beginning Algebra; or sufficient score on assessment test; or departmental approval: equivalent coursework.

MATH-1250 Contemporary Mathematics

04 Semester Credits

Contemporary mathematics as it applies to today's world. Includes modeling and solving real life problems from behavioral, managerial, and social sciences. Topics include linear programming and management science, probability and statistics, biological and financial growth, and mathematics of social choice.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): MATH-0960 Beginning Algebra II; or MATH-0980 Intensified Beginning Algebra; or sufficient score on assessment test; or departmental approval: equivalent coursework.

MATH-1360 Technical Mathematics II

05 Semester Credits

Continuation of Technical Mathematics I that stresses relationship of mathematics to engineering applications. Topics include vectors, polar coordinate system, law of sines and cosines, basic trigonometric identities; complex numbers; straight line and conic sections; limits; differentiation and graphical applications of the derivative; and indefinite and definite integration and applications. Emphasis on technology as tool through use of graphing calculator/computer.

Lecture 05 hours. Laboratory 00 hours.

Prerequisite(s): MATH-1160 Technical Mathematics I, or departmental approval: equivalent coursework.

MATH-1370 Mathematics for Elementary and Middle School Teachers I

04 Semester Credits

First of two semester sequence designed for elementary and middle school education majors. Emphasis on understanding ideas and concepts. Includes sets and numeration, whole numbers, number theory, fractions, decimals, integers, rational and real numbers, problem solving strategies, and historical topics. Highlights applications to the classroom, projects, and use of current technology, including scientific/graphing calculators and computers.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): MATH-1180 Intermediate Algebra for Technologies; or MATH-1200 Intermediate Algebra; or sufficient score on assessment exam; or departmental approval: equivalent coursework.

MATH-1380 Mathematics for Elementary and Middle School Teachers II

04 Semester Credits

Second of two-semester sequence designed for elementary and middle school education majors. Emphasis on understanding ideas and concepts. Includes statistics, probability, measurement, geometric shapes, Euclidean geometry, coordinate geometry, transformational geometry, problem-solving strategies, and historical topics. Highlights applications to the classroom, projects, and use of current technology, including scientific/graphing calculators and computers.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): MATH-1370 Mathematics for Elementary and Middle School Teachers I; or departmental approval: equivalent coursework.

MATH-1410 Elementary Probability and Statistics I

03 Semester Credits

First of two-semester introductory sequence in probability and statistics. Sequence is intended for students majoring in liberal arts, business, sciences, engineering, and education. Includes study of descriptive statistics, elementary probability, probability distributions, normal distribution, binomial distribution, sampling concepts, sampling distribution of sample mean, estimation, and hypothesis testing.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): MATH-1250 Contemporary Mathematics; or MATH-1180 Intermediate Algebra for Technologies; or MATH-1200 Intermediate Algebra; or sufficient score on assessment test; or departmental approval: equivalent coursework.

MATH-1420 Elementary Probability and Statistics II

03 Semester Credits

Second of two-semester introductory sequence in probability and statistics. Intended for students majoring in liberal arts, business, sciences, engineering, and education. Includes study of Chi-square distribution and F distribution and their applications, inferences on variances and proportions, comparing two means, categorical data, correlation, simple and multiple regression, analysis of variance, nonparametric tests and use of statistical software packages.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): MATH 1410 Elementary Probability and Statistics I, or departmental approval: equivalent coursework.

Course Descriptions

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MATH-1470 Modern Mathematics for Business and Social Sciences I

04 Semester Credits

First of two-semester sequence. Includes linear systems, functions, matrix algebra and linear programming techniques as applied to business problems and simplex method. Math of finance and basic theory of probability and statistics.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): MATH-1180 Intermediate Algebra for Technologies; or MATH-1200 Intermediate Algebra; or sufficient score on assessment exam; or departmental approval: equivalent coursework.

MATH-1480 Modern Mathematics for Business and Social Sciences II

04 Semester Credits

Second of two-semester sequence. Includes fundamentals of differential and integral calculus and applications of these topics to business and economics.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): MATH-1470 Modern Mathematics for Business and Social Sciences I, or departmental approval: equivalent coursework.

MATH-1510 Trigonometry

03 Semester Credits

Topics include trigonometric functions and their values for all angles, vectors and oblique triangles, graphs of trigonometric functions, trigonometric identities and equations. Applications and activities to build skills in problem solving included.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): MATH-1180 Intermediate Algebra for Technologies; or MATH-1200 Intermediate Algebra; or sufficient score on assessment test; or departmental approval: equivalent coursework.

MATH-1521 College Algebra

04 Semester Credits

Topics include polynomial, rational, exponential and logarithmic functions and graphs, conic sections, inequalities, matrices and determinants, theory of equations, series, sequences, the binomial theorem and mathematical induction. Includes study of applications and activities to build skills in problem solving.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): MATH-1180 Intermediate Algebra for Technologies; or MATH-1200 Intermediate Algebra; or sufficient score on assessment test; or departmental approval: equivalent coursework.

MATH-1580 Precalculus

05 Semester Credits

Intensified course designed to prepare students for calculus. Study of real numbers, equations and inequalities, functions and graphs, sequences and series, theory of equations, systems of equations and inequalities, mathematical induction, conic sections, exponential and logarithmic functions, trigonometric functions and complex numbers. Applications and activities to build skills in problem solving also included.

Lecture 05 hours. Laboratory 00 hours.

Prerequisite(s): Sufficient score on assessment test, or departmental approval: previous trigonometry or algebra/trigonometry course in high school or college.

MATH-1610 Calculus I

05 Semester Credits

First of three-semester sequence designed for math, science, and engineering majors. Includes study of Cartesian coordinates, functions and graphs, limits and continuity, differentiation of algebraic and trigonometric functions, applications of derivative, differentials and antiderivatives, and definite integral and its applications.

Lecture 05 hours. Laboratory 00 hours.

Prerequisite(s): MATH-1580 Precalculus; or MATH-1510 Trigonometry, and MATH-1520 College Algebra; or sufficient score on assessment test; or departmental approval: equivalent coursework.

MATH-161H Honors Calculus I

05 Semester Credits

First of a three-semester sequence designed for math, science, business, and engineering majors; focus on conceptual understanding of verbal, numerical, visual, and algebraic representations of functions, their graphs, and operations; includes limits, continuity, rates of change, derivatives, implicit differentiation of algebraic and trigonometric functions, application of differentials, differentiation, integrals, and application of integration; emphasize challenging calculus exercises, problems, projects, cooperative group work, student's presentation of one of the course projects, and use of technology: graphing calculators and computers.

Lecture 05 hours. Laboratory 00 hours.

Prerequisite(s): MATH-1580 Precalculus, or MATH-1510 Trigonometry and MATH-1520 College Algebra, or high school Precalculus; or departmental approval: equivalent coursework.

MATH-1620 Calculus II

05 Semester Credits

Second of three-semester sequence. Includes study of logarithmic and exponential functions, trigonometric and inverse trigonometric functions, techniques of integration, polar coordinates, conics, indeterminate forms, improper integrals, sequences and series.

Lecture 05 hours. Laboratory 00 hours.

Prerequisite(s): MATH-1610 Calculus I; or departmental approval: equivalent coursework.

MATH-162H Honors Calculus II

05 Semester Credits

Second of three-semester sequence designed for mathematics, science, business, and engineering majors. Focuses on conceptual understanding of logarithmic and exponential functions, trigonometric and inverse trigonometric functions, and hyperbolic and inverse hyperbolic functions and develops their properties, characteristics, derivatives, and graphs. Includes techniques of integration, polar coordinates, conic sections, limits of indeterminate forms of quotients of functions, improper integrals, and sequences and series. Emphasizes proofs of theorems and solving challenging examples, exercises, and application problems. Stresses development of research projects. Underscores cooperative work, student's presentation of one of the course projects and use of technology: graphics calculators and computers.

Lecture 05 hours. Laboratory 00 hours.

Prerequisite(s): MATH-161H Honors Calculus I; or high school Honors Calculus I; or departmental approval: equivalent coursework.

Course Descriptions

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MATH-1800 Special Topics in Mathematics

1-3 Semester Credits

MATH-1820 Independent Study in Mathematics

1-3 Semester Credits

MATH-2310 Calculus III

04 Semester Credits

Third of three-semester sequence. Topics include vectors, parametric equations, analytic geometry of space, partial differentiation, and multiple integrals, line and surface integrals.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): MATH-1620 Calculus II, or departmental approval: equivalent coursework.

MATH-231H Honors Calculus III

04 Semester Credits

Third of three-semester sequence designed for mathematics, science, business, and engineering majors. Focuses on conceptual understanding of vectors, parametric equations, analytic geometry of space, partial differentiation, and multiple integrals, line and surface integrals. Emphasizes proofs of theorems and solving challenging examples, exercises, and application problems. Stresses the development of research projects. Underscores cooperative work, student's presentation of one of the course projects; and use of technology: graphics calculators and computers.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): MATH-162H Honors Calculus II; or high school Honors Calculus II; or departmental approval: equivalent coursework.

MATH-2410 Introduction to Linear Algebra

03 Semester Credits

Includes the study of vector spaces, linear transformations and matrices, determinants, invariant subspaces, eigenvalues and eigenvectors, and applications.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): MATH-2310 Calculus III, or departmental approval: equivalent coursework.

MATH-2520 Differential Equations

03 Semester Credits

Includes study of differential equations of first and higher order, simultaneous, linear and homogeneous differential equations, solution by power series, Laplace transformations and computer applications.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): MATH-1620 Calculus II, or departmental approval: equivalent coursework.

MATH-2800 Special Advanced Topics in Mathematics

1-3 Semester Credits

MATH-2820 Independent Advanced Study in Mathematics

1-3 Semester Credits

Mechanical Engineering Technology – MET

MET-1100 Technology Orientation

02 Semester Credits

Orientation and exploration of technician's role as part of industrial team. Familiarizes student with technical careers, opportunities and basic skills needed for success in technical programs. Includes introduction to computer and its uses as creative and technical tool. Oral, written and graphic methods of communication for technician. Provides practical approach to technical writing.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): Eligibility for MATH-1160 Technical Mathematics I, or departmental approval.

MET-1600 Technical Statics

02 Semester Credits

Study of forces on structures and machines at rest. Topics include composition and resolution of forces, moments, freebody diagrams, trusses, frames, simple machines, friction, centers of gravity, centroids, and plane and polar moments of inertia.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): MATH-1160 Technical Mathematics I; and PHYS-1210 College Physics I or concurrent enrollment.

MET-1620 Technical Dynamics

02 Semester Credits

Study of motion and forces on rigid members. Topics include plane and curvilinear motion, kinetics, work, energy, power, efficiency, impact and momentum. Introduction to balancing and vibrations.

Lecture 01 hour. Laboratory 02 hours

Prerequisite(s): MET-1600 Technical Statics or concurrent enrollment.

MET-1800 Special Topics in Mechanical Engineering

1-3 Semester Credits

MET-1820 Independent Study in Mechanical Engineering

1-3 Semester Credits

MET-2200 Strength of Materials

03 Semester Credits

Study of stress, strain and deformation of mechanical bodies due to static tensile, compressive, torsional, bending and combined loading. Deflection of beams and columns, design of beam for strength and structural connections.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): MET-1600 Technical Statics.

MET-2300 Fluid Power

03 Semester Credits

Concepts and practices related to modern hydraulic and pneumatic systems. Includes basics of fluid flow, fluid dynamics, properties of hydraulic fluid, components of hydraulic system, hydraulic circuit, design, operation and control of hydraulic/pneumatic system.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): PHYS-1210 College Physics I or concurrent enrollment, or departmental approval.

MET-2600 Mechanical Computer-Aided Engineering

03 Semester Credits

Introduction to computer-aided engineering, design of mechanical component and system using computer-aided design technique, AutoCAD solid and surface model for product development, analysis of geometric properties, stress, deformation and temperature distribution using finite element technique, optimization of design and design documentation.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): MIT-1200 Engineering Drawing, MIT-1220 Introduction to AutoCAD, and MET-2200 Strength of Materials; or departmental approval: mechanical drafting experience.

MET-2700 Machine Design

04 Semester Credits

Capstone course in Mechanical Engineering Technology.

Study of mechanical motion and design of machine elements. Topics include displacement, velocity and acceleration in linkages, cams and power transmission devices. Design of machine elements include checking of assembled machines, fasteners, weldments, springs, bearings, belts, chains, shafts, clutches and brakes.

Laboratory consists of using CAD, computer programming and manufacturer's catalogs to aid in design.

Lecture 03 hours. Laboratory 02 hours.

Prerequisite(s): MET-2200 Strength of Materials, and MET-1620 Technical Dynamics.

MET-2800 Special Advanced Topics in Mechanical Engineering

1-3 Semester Credits

MET-2820 Independent Advanced Study in Mechanical Engineering

1-3 Semester Credits

MET-2830 Cooperative Field Experience

1-3 Semester Credits

Medical Assisting - MA

MA-1010 Introduction to Medical Terminology

02 Semester Credits

Introduction to medical terminology used by health care professionals with emphasis on basics of word building, defining, spelling, reading practice, and pronunciation. Designed to provide students with foundation for medical word building and to help students who intend to enroll in Medical Terminology I and/or Anatomy and Physiology in Biology.

Lecture 02 hours. Laboratory 00 hours. Prerequisite(s): None.

MA-1020 Medical Terminology I

03 Semester Credits

Terminology utilized by health care professionals. Emphasis on correct spelling, definition, and pronunciation. Usage of basic and complex medical terms related to the body as a whole, and to the musculoskeletal, digestive, respiratory, urinary, female reproductive, male reproductive and cardiovascular systems. Proficient use of medical dictionary emphasized.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

MA-1050 Health Unit Secretary

03 Semester Credits

Specific application of health unit secretary duties and responsibilities relating to entry level positions. Basic information with emphasis on clerical tasks: patient admissions, transfers, discharges, charts, and processing orders. Accuracy and appropriate understanding of physician, nursing, and dietary treatment orders stressed. Accuracy in transcribing medication orders, laboratory orders and other diagnostic orders is simulated. Emphasis on Allied Health professional principles.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

MA-1320 Office Laboratory Procedures

03 Semester Credits

Basic principles of laboratory skills and methods for the medical office. Safety concerns and regulatory agency guidelines and requirements. Emphasis on patient instruction, sample collection and processing, and reporting of test results. Quality control in the office lab. Technical procedures for venipuncture and dermal puncture. Laboratory testing techniques, including basic urinalysis, microbiology specimen collections, transport, serological testing, and point of care testing.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): Departmental approval: admission to Medical Assisting program.

Course Descriptions

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MA-1400 Basic Clinical Medical Assisting

02 Semester Credits

Introductory theory and techniques required by medical assistant to perform fundamental clinical assisting procedures in physician's office, clinic or family practice center. Procedures employed in patient examination including medical asepsis, vital signs, positioning and draping, and measuring height, weight and visual acuity. Emphasis on principles and practices in aseptic techniques which include sanitation, disinfection and sterilization. Preparation and care of the examination room. Preparing and assisting with exam. Theory of and practice in-patient triage. Multicultural awareness and assisting patients with special needs. Fundamental concepts of patient education.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): Departmental approval: admission to Medical Assisting program.

MA-1420 Office Record Documentation and Management

01 Semester Credit

Introduction to types of patient-care records prepared and maintained in the office setting. Contents of medical records. Methods of charting, documentation and tracking the medical record. Obtaining chief complaint and completing patient history forms. Quality assurance and the medical record. Computer applications for the medical office record.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to Medical Assisting program.

MA-1500 Medical Office Communication

03 Semester Credits

Specific application of administrative duties and responsibilities relating to effective communication in the medical office. Basic information concerning communication and the psychology of communication covered. Writing skills stressed. Emphasis on composing business letters, composing memoranda, composing and editing office policy manuals and office procedure manuals in correct form. Office communication is simulated by typing minutes, agenda, preparing itinerary for physician, and processing incoming and outgoing mail. Collecting pertinent medical information from the internet is simulated.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): Departmental approval: admission to Medical Assisting program.

MA-1511 Medical Office Procedures

03 Semester Credits

Administrative aspects of the Medical Assisting profession is stressed. Emphasis on integrating the following administrative procedures: creating and maintaining the facility environment, telephoning techniques, patient scheduling, management of medical records, daily financial practices, medical insurance, medical insurance coding, billing and collections of fees, accounting practices and payroll processing.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): MA-1500 Medical Office Communication.

MA-1700 Sterile Processing Tech I

04 Semester Credits

Principles of sterilization; basic microbiology and fundamentals of cleaning in central service; instrumentation and maintenance of equipment used in central service.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I, and departmental approval.

MA-1710 Sterile Processing Tech II

04 Semester Credits

Basics of packaging and wrapping; biological monitoring and record keeping; steam sterilization; ethylene oxide sterilization; dry heat, chemical and alternative sterilization; inventory control and distribution of supplies; legal aspects; work simplification; and management.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): MA-1700 Sterile Processing Tech I, or departmental approval.

MA-1800 Special Topics in Medical Assisting

1-3 Semester Credits

MA-181S Special Laboratory Topics in Medical Assisting

1-3 Semester Credits

Specialized two-hour lab for credit.

MA-1820 Independent Study in Medical Assisting

1-3 Semester Credits

MA-1860 Sterile Processing Practicum

02 Semester Credits

Supervised clinical experience in central service/materials management department of health care facility covering principles and practices of cleaning, decontamination and sterilization of medical instruments and apparatus. Fundamentals of wrapping, sterile set-ups, safety rules and regulations, inventory control, record keeping and quality assurance. Seminar discussion of clinical experience. May be repeated for a maximum of 4 credits.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 112 hrs./semester.

Seminar: 1 hour per week.

Prerequisite(s): MA-1710 Sterile Processing Tech II.

MA-1980 Practitioner/Patient Interaction Seminar

02 Semester Credits

Development of self-examination and personal insight relative to health care provider-patient interaction. Students engage in series of learning activities covering such topics as wellness and health, communication skills, values as determinants of behavior, personal and professional self-esteem, stress management skills and professional burnout.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Seminar: 2 hours per week.

Prerequisite(s): Departmental approval: admission to a health career program.

MA-2010 Medical Terminology II

02 Semester Credits

[formerly MA-1030]

Terminology utilized by health care professionals. Emphasis on spelling, definition, pronunciation, and usage of basic and complex medical terms related to hematology, lymphatic, integumentary, special senses, nervous, psychiatric and endocrine systems. Emphasis on reading, translating and composing medical documents. Proficient use of medical dictionary is emphasized.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): MA-1020 Medical Terminology I, or departmental approval: related work experience.

MA-2410 Advanced Clinical Medical Assisting

03 Semester Credits

[formerly MA-1410]

Theory and techniques required by medical assistants to perform advanced procedures in doctor's office, clinic or family practice center. Assisting with minor surgery, preparation of basic surgical setups, and understanding of and applying concepts of universal precautions. Principles and practice of electrocardiography and injections. Assisting with specialty exam, with special emphasis on pediatric and gynecological examinations. Applied principles of patient education.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): MA-1400 Basic Clinical Medical Assisting.

MA-2520 Medical Billing

03 Semester Credits

(formerly MA-1520)

Specific application of universal concepts of medical insurance and billing procedures. Understanding insurance terminology, types of insurance coverage, obtaining consent for release of information, assignment of insurance benefits and claim forms preparation. Beneficial for updating medical billing skills of those persons practicing in medical assisting or allied fields. Focus on skills required to code medical procedures (CPT-4, HCPCS) and diagnoses (ICD9) for accurate claim form completion.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): MA-1010 Introduction to Medical Terminology; or MA-1020 Medical Terminology I; or departmental approval: appropriate work experience.

MA-2800 Special Advanced Topics in Medical Assisting

1-3 Semester Credits

MA-281S Special Advanced Laboratory Topics in Medical Assisting

1-3 Semester Credits

Specialized two-hour lab per credit.

MA-2820 Independent Advanced Study in Medical Assisting

1-3 Semester Credits

MA-2860 Medical Assisting Practicum

02 Semester Credits

Capstone course in Medical Assisting. Supervised clinical experience in a physician's office, clinic or family practice center. Students perform duties of a medical assistant while rotating through administrative and clinical areas of a physician's office, clinic or family practice center.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 210 hours per semester.

Prerequisite(s): Concurrent enrollment in MA-2410 Advanced Clinical Medical Assisting, MA-1511 Medical Office Procedures, and MA-2980 Medical Assisting Seminar.

MA-2980 Medical Assisting Seminar

01 Semester Credit

Principles, procedures, and practical application of administrative, clinical and special medical assisting procedures. Opportunity to compare and contrast practices in various clinical settings. Discussion of certification and preparation to function as certified medical assistant. Discussion of future trends in medical assisting profession.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Seminar: 1 hour per week.

Prerequisite(s): Concurrent enrollment in MA-2860 Medical Assisting Practicum, or departmental approval

Medical Laboratory Technology – MLT

MLT-1300 Introduction to Blood Collection

03 Semester Credits

Introduction to theory and practice of phlebotomy. Principles of aseptic technique and familiarity with phlebotomy equipment. Performance of venipunctures and capillary punctures. Universal precautions and safety of phlebotomist and patient are strictly enforced.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I, or departmental approval: admission to health career or Nursing program.

MLT-1350 Problem Solving Techniques for the Medical Laboratory

01 Semester Credit

Review of basic algebra and the metric system, study of formula evaluation, unit analysis, solution dilution and concentration, pH and bicarbonate equilibrium, Beer's Law and the construction of standard curves, and quality control topics of mean and standard deviation as applied to clinical laboratory medicine. Application and activities to build skills in problem solving.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): MATH-1200 Intermediate Algebra or concurrent enrollment, or departmental approval.

MLT-1460 Hematology I

03 Semester Credits

Introduction to hematology. Principles and applications of manual cell counting, leukocyte differential counts, sedimentation rate, micro-hematocrit, and selected coagulation studies.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): MLT-1300 Introduction to Blood Collection, or departmental approval: related work experience.

MLT-1470 Blood Bank and Serology I

03 Semester Credits

Introduction to immunology, blood banking and serology. Laboratory testing based on antigen-antibody reactions. Diagnostic uses of serological tests. Principles and applications of antigen and antibody testing for ABO, Rh and other major blood group systems including compatibility testing.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): MLT-1300 Introduction to Blood Collection, or departmental approval: related work experience.

MLT-1480 Clinical Microbiology I

03 Semester Credits

Principles, procedures, and applications of introductory clinical microbiology emphasizing identification of bacteria, pathogenesis and serologic detection of selected infectious agents. Culture media, identification, safety, asepsis, sterilization, and sensitivity testing.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): MLT-1300 Introduction to Blood Collection, or departmental approval: related work experience.

MLT-1490 Urinalysis

03 Semester Credits

Laboratory safety and universal precautions. Introduction and proper use of centrifuge, microscope, and manual and automated pipets. Review of urinary system and its pathology. Performance of physical, chemical and microscopic components of routine urinalysis.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): MLT-1300 Introduction to Blood Collection, or concurrent enrollment; or departmental approval: related work experience.

MLT-1500 Clinical Chemistry I

03 Semester Credits

Introduction to basic theory and laboratory techniques in clinical chemistry. Statistics related to quality control, chemistry reagents and standards, laboratory safety, and universal precautions.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): MLT-1300 Introduction to Blood Collection, or departmental approval: related work experience.

MLT-1800 Special Topics in Medical Laboratory Technology

1-3 Semester Credits

MLT-181S Special Laboratory Topics in Medical Laboratory Technology

1-3 Semester Credits Specialized two-hour lab per credit.

MLT-1820 Independent Study in Medical Laboratory Technology

1-3 Semester Credit

MLT-2460 Hematology II

02 Semester Credits

Principles, procedures and applications of complex, advanced diagnostic tests performed by medical laboratory personnel at Medical Laboratory Technician level. Principles of advanced hematology and coagulation, including case studies.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): MLT-1460 Hematology I, or departmental approval: related work experience.

MLT-2470 Blood Bank and Serology II

02 Semester Credits

Advanced applications of serological testing procedures used in problem solving in clinical laboratory transfusion service. Transfusion practices including component therapy, component production, acceptable donor criteria and transfusion transmitted diseases.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): MLT-1470 Blood Bank and Serology I, or departmental approval: related work experience.

MLT-2481 Clinical Microbiology II

02 Semester Credits

Principles, procedures and applications of advanced clinical microbiology diagnostic tests and practices. Emphasis on clinical microbiology, mycology, parasitology and virology.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): MLT-1480 Clinical Microbiology I, or departmental approval: related work experience.

MLT-2500 Clinical Chemistry II

03 Semester Credits

Principles, procedures and application of complex advanced diagnostic tests in clinical chemistry and urinalysis. Seminar discussion of practicum experience.

Lecture 02 hours. Laboratory 00 hours.

Other Required Hours: Seminar: 1 hour per week.

Prerequisite(s): MLT-1500 Clinical Chemistry I, or departmental approval: related work experience.

MLT-2800 Special Advanced Topics in Medical Laboratory Technology

1-3 Semester Credits

MLT-281S Special Advanced Laboratory Topics in Medical Laboratory Technology

1-3 Semester Credits. Specialized two-hour lab per credit.

MLT-2820 Independent Advanced Study in Medical Laboratory Technology

1-3 Semester Credits

MLT-2860 Medical Laboratory Practicum

08 Semester Credits

Supervised clinical experience. Students rotate through hematology, or urinalysis, or chemistry, or microbiology, or serology, or immunohematology laboratories, or phlebotomy departments for fifty- six (56) hours per week meeting performance objectives of medical laboratory or laboratory phlebotomy personnel at MLT level. Modular courses MLT-286A, MLT-286B, MLT-286C and MLT-286D together will also meet requirements for this course.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 56 hours per week.

Prerequisite(s): MLT-1300 Introduction to Blood Collection; and concurrent enrollment in MLT-2970 Advanced Phlebotomy, or MLT-2500 Clinical Chemistry II, or MLT-2481 Clinical Microbiology II; and departmental approval.

MLT-286A Medical Laboratory Practicum

02 Semester Credits

Capstone course in Medical Laboratory Technology. Supervised clinical experience. Students rotate through microbiology for 14 hours per week meeting performance objectives of medical laboratory personnel at MLT level.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 14 hours per week.

Prerequisite(s): MLT-1300 Introduction to Blood Collection; and concurrent enrollment in MLT-2500 Clinical Chemistry II, or MLT-2481 Clinical Microbiology II; and departmental approval.

MLT-286B Medical Laboratory Practicum

02 Semester Credits

Capstone course in Medical Laboratory Technology. Supervised clinical experience. Students rotate through urinalysis or phlebotomy departments for 14 hours per week meeting performance objectives of medical laboratory or laboratory phlebotomy personnel at MLT level.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 14 hours per week.

Prerequisite(s): MLT-1300 Introduction to Blood Collection, or concurrent enrollment; and concurrent enrollment in MLT-2970 Advanced Phlebotomy, or MLT-2500 Clinical Chemistry II, or MLT-2481 Clinical Microbiology II; and departmental approval.

MLT-286C Medical Laboratory Practicum

02 Semester Credits

Capstone course in Medical Laboratory Technology. Supervised clinical experience. Students rotate through chemistry, or serology for 14 hours per week meeting performance objectives of medical laboratory or laboratory phlebotomy personnel at MLT level.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 14 hours per week.

Prerequisite(s): MLT-1300 Introduction to Blood Collection; and concurrent enrollment in MLT-2500 Clinical Chemistry II, or MLT-2481 Clinical Microbiology II; and departmental approval.

MLT-286D Medical Laboratory Practicum

02 Semester Credits

Capstone course in Medical Laboratory Technology. Supervised clinical experience. Students rotate through hematology, or blood bank laboratories, for 14 hours per week meeting performance objectives of medical laboratory or laboratory phlebotomy personnel at MLT level.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 14 hours per week.

Prerequisite(s): MLT-1300 Introduction to Blood Collection; and concurrent enrollment in MLT-2500 Clinical Chemistry II, or MLT-2481 Clinical Microbiology II; and departmental approval.

MLT-2970 Advanced Phlebotomy

01 Semester Credit

Review of theory and techniques for phlebotomy procedures. Presentation of basic procedures involved in point-of-care testing and unregulated laboratory test procedures. Emphasis on universal precautions, safety, communication, interpersonal skills, and ethical considerations relating to patients. Seminar discussion of practicum experience.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Seminar: 1 hour per week.

Prerequisite(s): MLT-1300 Introduction to Blood Collection; and concurrent enrollment in MLT-286B Medical Lab Practicum; or departmental approval.

MLT-2980 Professional Development and Life Skills Seminar

01 Semester Credit

Capstone course in Medical Laboratory Technology. Integration of knowledge acquired in basic, technical and non-technical areas in preparation for professional roles and life-long professional growth and development. Seminar discussion of clinical experience.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Seminar: 1 hour per week.

Prerequisite(s): Concurrent enrollment in medical laboratory practicum's MLT-286A or MLT-286B, or departmental approval: related work experience.

Music – MUS

MUS-1010 Survey of European Classical Music

03 Semester Credits

Introduction to elements and styles of European classical music. Composers, works, instrumentation and forms studied in their cultural and historical context. Focus on listening and understanding European classical music.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

MUS-1020 Survey of Jazz

03 Semester Credits

Introduction to basic elements and techniques of jazz. Function of jazz instrumentation, forms, improvisation and other musical elements and conventions indigenous to jazz. Characteristic features of various styles and artists studied. Focus on listening to and understanding jazz.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

MUS-1030 Survey of Rock and Roll

03 Semester Credits

Survey of most influential and innovative works and artists of rock music from origins to present. Includes terminology, techniques, style, instrumentation and lyrics, with references to cultural and historical context. Course involves listening to, reading and discussing of artists and recordings. Focus on listening to and understanding rock and roll music.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

MUS-1040 Survey of African-American Music

03 Semester Credits

Chronological study of history of African-American music from eighteenth century through 1920s. Oral traditions and performance practices studied in cultural and historical context. Sacred, folk, popular, and classical music, and precursors of jazz discussed. Focus on listening to and understanding African-American music.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

MUS-1050 Survey of World Music

03 Semester Credits

Introduction to elements and styles of music of diverse ethnic cultures. Instruments, forms, and concepts of music explored through art and folk music to develop an understanding of how basic materials of music work together. Focus on listening to and understanding music of diverse cultures.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

MUS-1100 Music for Elementary Education

03 Semester Credits

Designed to orient elementary teachers to role of music in growth and development of children. Emphasis on creating musical environment in elementary school classroom. Study of young voice, basic theory, piano keyboard, music symbols and terms, and use of elementary classroom instruments.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

MUS-1110 Music Business I

03 Semester Credits

Examination of multiple facets of music industry. Includes exploration of career options, recording industry, performance and promotion, music business contracts, marketing of songs, music publishing, copyrights, and retail.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

MUS-1120 Music Business II

03 Semester Credits

Artist promotion, management, music agents, music in advertising, concert promotion, arts administration, and music entrepreneurship.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): MUS-1110 Music Business I.

MUS-1130 MIDI Technology I

03 Semester Credits

Basic audio signal flow, MIDI (Music Instrument Digital Interface) principles and techniques, the virtual studio concept, computer-based sequencing and notation software and operation of modern keyboard equipment.

Lecture 02 hours. Laboratory 02 hours. Prerequisite(s): None.

MUS-1140 MIDI Technology II

03 Semester Credits

Further development of concepts and skills introduced in MIDI technology I. Advanced sequencing and editing techniques, synchronization, digital audio recording, music notation and MIDI studio organization.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): MUS-1130 MIDI Technology I.

MUS-1170 Songwriting I

02 Semester Credits

Instruction in art of contemporary songwriting. Includes consideration of form, rhythm, melody, lyric content, harmony, arranging, and development of individual style. Development of listening skills and criticism utilizing songs of class members and established artists.

Lecture 02 hours. Laboratory 00 hours. Prerequisite(s): None.

MUS-1200 Music Reading Skills

03 Semester Credits

Introduction to concepts and skills of reading music and music theory for pre-music and non-music majors. Includes study of notation, rhythm, scales, key signatures, intervals and triads.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

MUS-1210 Introduction to Music Theory

03 Semester Credits

Terminology, symbols, skills, and concepts of music theory for pre-music and non-music majors. Includes study of intervals, chords, voice leading and figured bass, compositional devices, transposition, analysis, and basic forms.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): MUS-1200 Music Reading Skills, or departmental approval.

Course Descriptions

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MUS-1220 Basic Ear Training

02 Semester Credits

Introduction to development of aural skills for pre-music and non-music majors. Students develop discrimination skills including pitch and rhythm perception through sight singing and dictation.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): MUS-1200 Music Reading Skills, or departmental approval.

MUS-1230 Critical Listening

01 Semester Credit

Use of critical and analytic listening methods to evaluate frequency, sound quality, musical mix structure and to analyze common sound problems.

Lecture 01 hour. Laboratory 00 hours. Prerequisite(s): None.

MUS-1250 Class Keyboard I

02 Semester Credits

Basic piano techniques and performance skills for pre-music and non-music majors. Emphasis on keyboard development in sight reading, improvising, transposing and harmonizing melodies in various styles. Includes solo and ensemble literature.

Lecture 01 hour. Laboratory 02 hours. Prerequisite(s): None.

MUS-1260 Class Keyboard II

02 Semester Credits

Functional piano techniques and keyboard skills for pre-music and non-music majors. Keyboard development in second level sight reading, transposing, improvising, and ensemble playing in various styles. Development of second level solo and ensemble repertoire.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): MUS-1250 Class Keyboard I.

MUS-1270 Class Voice

02 Semester Credits

Basic techniques of voice production. Includes breath control, diction, projection, tone-color, and interpretation for pre-music and non-music majors. Progressive vocal exercises and studies. Application of principles to performance of simple songs.

Lecture 01 hour. Laboratory 02 hours. Prerequisite(s): None.

MUS-1290 Basic Applied Music I

01 Semester Credit

Individual instruction for pre-music and non-music majors on any standard band, orchestral instrument or voice. May be repeated for credit; however, no more than 4 credits may be applied to degree requirements.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 7 hours of concentrated practice each week.

Prerequisite(s): Departmental approval.

MUS-1301 Applied Piano Minor I

01 Semester Credit

Private piano instruction for music majors with piano as minor instrument. Development of technical facility, rhythmic control, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for first semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 7 hours of concentrated practice each week.

Prerequisite(s): Departmental approval: audition.

MUS-1302 Applied Piano Minor II

01 Semester Credit

Second level private piano instruction for music major with piano as minor instrument. Development of technical facility, rhythmic control, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for second semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 7 hours of concentrated practice each week.

Prerequisite(s): MUS-1301 Applied Piano Minor I.

MUS-1311 Applied Bass I

02 Semester Credits

Private bass instruction for bass majors. Development of tone production, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight reading skills. Development of standard repertoire including selected solo and method literature for first semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): Departmental approval: audition.

MUS-1312 Applied Bass II

02 Semester Credits

Second level private bass instruction for bass majors. Development of tone production, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight reading skills. Development of standard repertoire including selected solo and method literature for second semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice per week

Prerequisite(s): MUS-1311 Applied Bass I.

MUS-1321 Applied Clarinet I

02 Semester Credits

Private clarinet instruction for clarinet majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight reading skills. Development of standard repertoire including selected solo and method literature for first semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): Departmental approval: audition.

Course Descriptions

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MUS-1322 Applied Clarinet II

02 Semester Credits

Second Level private clarinet instruction for clarinet majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight reading skills. Development of standard repertoire including selected solo and method literature for second semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-1321 Applied Clarinet I.

MUS-1331 Applied Flute I

02 Semester Credits

Private flute instruction for flute majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight reading skills. Development of standard repertoire including selected solo and method literature for first semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): Departmental approval: audition.

MUS-1332 Applied Flute II

02 Semester Credits

Second Level private flute instruction for flute majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight reading skills. Development of standard repertoire including selected solo and method literature for second semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-1331 Applied Flute I.

MUS-1341 Applied French Horn I

02 Semester Credits

Private French horn instruction for French horn majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight reading skills. Development of standard repertoire including selected solo and method literature for first semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): Departmental approval: audition.

MUS-1342 Applied French Horn II

02 Semester Credits

Second level private French horn instruction for French horn majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight reading skills. Development of standard repertoire including selected solo and method literature for second semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours. Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-1341 Applied French Horn I.

MUS-1351 Applied Guitar I

02 Semester Credits

Private guitar instruction for guitar majors. Development of tone production, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight reading skills. Development of standard repertoire including selected solo and method literature for first semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week. Prerequisite(s): Departmental approval: audition.

MUS-1352 Applied Guitar II

02 Semester Credits

Second level private guitar instruction for guitar majors. Development of tone production, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight reading skills. Development of standard repertoire including selected solo and method literature for second semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week. Prerequisite(s): MUS-1351 Applied Guitar I.

MUS-1361 Applied Oboe I

02 Semester Credits

Private oboe instruction for oboe majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight reading skills. Development of standard repertoire including selected solo and method literature for first semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week. Prerequisite(s): Departmental approval: audition.

MUS-1362 Applied Oboe II

02 Semester Credits

Second level private oboe instruction for oboe majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight reading skills. Development of standard repertoire including selected solo and method literature for second semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week. Prerequisite(s): MUS-1361 Applied Oboe I.

Course Descriptions

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MUS-1371 Applied Percussion I

02 Semester Credits

Private percussion instruction for percussion majors. Development of technical facility, rhythmic control, tone production, phrasing, stylistic interpretation and sight reading skills. Development of standard repertoire including selected solo and method literature for first semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): Departmental approval: audition.

MUS-1372 Applied Percussion II

02 Semester Credits

Second level private percussion instruction for percussion majors. Development of technical facility, rhythmic control, tone production, phrasing, stylistic interpretation and sight reading skills. Development of standard repertoire including selected solo and method literature for second semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-1371 Applied Percussion I.

MUS-1381 Applied Piano I

02 Semester Credits

Private piano instruction for piano majors. Development of technical facility, rhythmic control, tone production, phrasing, stylistic interpretation and sight reading skills. Development of standard repertoire including selected solo and method literature for first semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): Departmental approval: audition.

MUS-1382 Applied Piano II

02 Semester Credits

Second level private piano instruction for piano majors. Development of technical facility, rhythmic control, tone production, phrasing, stylistic interpretation and sight reading skills. Development of standard repertoire including selected solo and method literature for second semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-1381 Applied Piano I.

MUS-1391 Applied Saxophone I

02 Semester Credits

Private saxophone instruction for saxophone majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight reading skills. Development of standard repertoire including selected solo and method literature for first semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): Departmental approval: audition.

MUS-1392 Applied Saxophone II

02 Semester Credits

Second level private saxophone instruction for saxophone majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight reading skills. Development of standard repertoire including selected solo and method literature for second semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-1391 Applied Saxophone I.

MUS-1401 Applied Trombone I

02 Semester Credits

Private trombone instruction for trombone majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight reading skills. Development of standard repertoire including selected solo and method literature for first semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): Departmental approval: audition.

MUS-1402 Applied Trombone II

02 Semester Credits

Second level private trombone instruction for trombone majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight reading skills. Development of standard repertoire including selected solo and method literature for second semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-1401 Applied Trombone I.

MUS-1411 Applied Trumpet I

02 Semester Credits

Private trumpet instruction for trumpet majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight reading skills. Development of standard repertoire including selected solo and method literature for first semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): Departmental approval: audition.

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MUS-1412 Applied Trumpet II

02 Semester Credits

Second level private trumpet instruction for trumpet majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight reading skills. Development of standard repertoire including selected solo and method literature for second semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-1411 Applied Trumpet I.

MUS-1421 Applied Tuba I

02 Semester Credits

Private tuba instruction for tuba majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight reading skills. Development of standard repertoire including selected solo and method literature for first semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): Departmental approval: audition.

MUS-1422 Applied Tuba II

02 Semester Credits

Private tuba instruction for tuba majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight reading skills. Development of standard repertoire including selected solo and method literature for second semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-1421 Applied Tuba I.

MUS-1431 Applied Viola I

02 Semester Credits

Private viola instruction for viola majors. Development of tone production, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight reading skills. Development of standard repertoire including selected solo and method literature for first semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): Departmental approval: audition.

MUS-1432 Applied Viola II

02 Semester Credits

Second level private viola instruction for viola majors. Development of tone production, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight reading skills. Development of standard repertoire including selected solo and method literature for second semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-1431 Applied Viola I.

MUS-1441 Applied Violin I

02 Semester Credits

Private violin instruction for violin majors. Development of tone production, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight reading skills. Development of standard repertoire including selected solo and method literature for first semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): Departmental approval: audition.

MUS-1442 Applied Violin II

02 Semester Credits

Second level private violin instruction for violin majors. Development of tone production, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight reading skills. Development of standard repertoire including selected solo and method literature for second semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-1441 Applied Violin I.

MUS-1451 Applied Voice I

02 Semester Credits

Private voice instruction for voice majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight reading skills. Development of standard repertoire including selected solo and method literature for first semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): Departmental approval: audition.

MUS-1452 Applied Voice II

02 Semester Credits

Second level private voice instruction for voice majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight reading skills. Development of standard repertoire including selected solo and method literature for second semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-1451 Applied Voice I.

MUS-1500 Choir

01 Semester Credit

Performance class with concentration on standard repertoire, both sacred and secular, accompanied and a cappella for mixed voices. Public performance required. May be repeated for credit; however, no more than 4 credits may be applied to degree requirements.

Lecture 00 hours. Laboratory 03 hours.

Prerequisite(s): Departmental approval: audition.

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MUS-1510 Choral Ensemble

01 Semester Credit

Performance of choral literature from Renaissance through 20th Century for small select ensemble. Public performance required. May be repeated for credit; however, no more than 4 credits may be applied to degree requirements.

Lecture 00 hours. Laboratory 03 hours.

Prerequisite(s): Departmental approval: audition.

MUS-1520 Jazz Ensemble

01 Semester Credit

Study and experimentation in performance of jazz ensemble literature and styles. Public performance required. May be repeated for credit; however, no more than 4 credits may be applied to degree requirements.

Lecture 00 hours. Laboratory 03 hours.

Prerequisite(s): Departmental approval: audition.

MUS-1530 Concert Band

01 Semester Credit

Performance of band and wind ensemble literature by woodwinds, brass, and percussion players. Public performance required. May be repeated for credit; however, no more than 4 credits may be applied to degree requirements.

Lecture 0 hours. Laboratory 03 hours.

Prerequisite(s): Departmental approval: audition.

MUS-1540 Orchestra

01 Semester Credit

Performance of selected orchestral literature by string, woodwind, brass and percussion players. Public performance required. May be repeated for credit; however, no more than 4 credits may be applied to degree requirements.

Lecture 00 hours. Laboratory 03 hours.

Prerequisite(s): Departmental approval: audition.

MUS-1550 Instrumental Ensemble

01 Semester Credit

Performance of traditional and contemporary ensemble literature. Public performance required. May be repeated for credit; however, no more than 4 credits may be applied to degree requirements.

Lecture 00 hours. Laboratory 03 hours.

Prerequisite(s): Departmental approval: audition.

MUS-1570 Technology Tools I

02 Semester Credits

Designed to give music students practical knowledge and skills in the use of current computer, MIDI (Musical Instrument Digital Interface), and electronic instrument technologies for application in music theory, arranging, composition and performance. Includes basic computer, MIDI principles and techniques, computer-based notation and sequencing software, and operation of modern electronic keyboard instruments.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): MUS-1210 Introduction to Music Theory, or departmental approval.

MUS-1580 Technology Tools II

02 Semester Credits

Designed to give music students practical knowledge and skills in the use of current computer, MIDI (Musical Instrument Digital Interface), and electronic instrument technologies for application in music theory, arranging, composition and performance. Includes advanced notation and sequencing editing techniques, digital audio recording and MIDI studio organization.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): MUS-1570 Technology Tools I, or departmental approval.

MUS-1600 Traditional Theory I

03 Semester Credits

Manipulation of musical materials including harmonic, melodic, rhythmic, and basic formal procedures with correlated creative works and analysis. Harmonization of figured bass and chorale writing including diatonic harmony and voice leading, melodic procedures and all non-harmonic tones. Analysis of common-practice literature. Integrates harmonic and contrapuntal approaches to analysis and composition.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): MUS-1210 Introduction to Music Theory.

MUS-1610 Ear Training I

02 Semester Credits

Identification of diatonic and chromatic intervals, triad qualities, scales and phrases. Melodic and rhythmic dictation, sight singing, analytic listening. Introduction to harmonic function and holistic listening.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): MUS-1220 Basic Ear Training.

MUS-1620 Traditional Theory II

03 Semester Credits

Introduction of modulation, chromatic materials and 20th century techniques. Integrates harmonic and contrapuntal approaches to analysis and composition.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): MUS-1600 Traditional Theory I, and MUS-1610 Ear Training I.

MUS-1630 Ear Training II

02 Semester Credits

Second level identification of intervals, chord qualities, scales, phrases and harmonic function. Melodic and rhythmic dictation, sight singing, analytic and holistic listening.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): MUS-1610 Ear Training I.

MUS-1650 Jazz Theory I

02 Semester Credits

Introduction to theoretical foundations of jazz including systematic examination of scales, hybrid modes and their practical applications, chord construction and notation, chord/scale relationships and applications, melodic construction and development, and analysis of transcribed solos and compositions from jazz repertoire including American standard song.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): MUS-1600 Traditional Theory I.

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MUS-1670 Jazz Performance and Improvisation I
02 Semester Credits
Improvisation within jazz style and presentation as performance. Investigates essential relationship of blues, American standard song and swing rhythm as central to character of jazz. Memorization of standard repertoire.
Lecture 01 hour. Laboratory 02 hours.
Prerequisite(s): MUS-1210 Introduction to Music Theory, and audition.

MUS-1680 Jazz Performance and Improvisation II
02 Semester Credits
Improvisation within jazz style and presentation as performance. Includes modal combinations and chord change sequences, scale- tone 7th, harmonic movement within blues and standard song, phrasing, paraphrasing, playing in various keys and memorization of standard repertoire.
Lecture 01 hour. Laboratory 02 hours.
Prerequisite(s): MUS-1670 Jazz Performance and Improvisation I.

MUS-1720 Arranging I
02 Semester Credits
Writing and arranging for the modern rhythm section including piano (keyboards), guitar, bass, drums and auxiliary percussion; writing and arranging techniques address the rhythm section as a unit and as part of a small or large ensemble.
Lecture 02 hours. Laboratory 00 hours.
Prerequisite(s): MUS-1600 Traditional Theory I, or departmental approval.

MUS-1800 Special Topics in Music
1-3 Semester Credits

MUS-181T Special Laboratory Topics in Music
1-3 Semester Credits
Specialized three-hour lab per credit.

MUS-1820 Independent Study in Music
1-3 Semester Credits

MUS-1970 Music Seminar
01 Semester Credit
Discussion of current topics related to music careers including presentations, performances, recitals and clinics, music academic and career exploration. May be repeated for an accrued maximum of six credits.
Lecture 00 hours. Laboratory 00 hours.
Other Required Hours: Seminar: 1 hour per week.
Prerequisite(s): Departmental approval.

MUS-2030 British Invasion
02 Semester Credits
Survey of influential and representative works and artists of British Invasion beginning in 1964 including the Beatles, Who, Rolling Stones, Kinks, and their contemporaries. Aesthetics, terminology, technique, style, instrumentation, lyrics, and technology.
Lecture 02 hours. Laboratory 00 hours.
Prerequisite(s): MUS-1030 Survey of Rock and Roll.

MUS-2130 Music Production for Video and Film
03 Semester Credits
Using tools of modern MIDI studio to write and produce appropriate musical score for video and film. Topics include music scoring techniques and sound design, role of music in advertising and film industries, and communicating with client to determine musical direction.
Lecture 02 hours. Laboratory 02 hours.
Prerequisite(s): MUS-1140 MIDI Technology II.

MUS-2140 Studio Music
02 Semester Credits
Reviews basic electronics and sound principles, discusses set-up, calibration and operation of digital and analog recording and test equipment. Topics include studio layout, technical signal routing, equipment interface, grounding, maintenance and troubleshooting.
Lecture 00 hours. Laboratory 04 hours.
Prerequisite(s): RAT-1500 Recording Theory I, and RAT-1510 Recording Lab I, and EET-1130 Basic Audio Electronics; or departmental approval.

MUS-2290 Basic Applied Music II
02 Semester Credits
Individual instruction for pre-music and non-music majors on any standard band, orchestral instrument or voice. May be repeated for credit; however, no more than 4 credits may be applied to degree requirements.
Lecture 00 hours. Laboratory 00 hours.
Other Required Hours: A private lesson and 14 hours of concentrated practice each week.
Prerequisite(s): Departmental approval.

MUS-2301 Applied Piano Minor III
01 Semester Credit
Third level private piano instruction for music major with piano as minor instrument. Development of technical facility, rhythmic control, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for third semester. End of semester performance jury required
Lecture 00 hours. Laboratory 00 hours.
Other Required Hours: A private lesson and 7 hours of concentrated practice each week.
Prerequisite(s): MUS-1302 Applied Piano Minor II.

MUS-2302 Applied Piano Minor IV
01 Semester Credit
Fourth level private piano instruction for music major with piano as minor instrument. Development of technical facility, rhythmic control, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for fourth semester. End of semester performance jury required.
Lecture 00 hours. Laboratory 00 hours.
Other Required Hours: A private lesson and 7 hours of concentrated practice each week.
Prerequisite(s): MUS-2301 Applied Piano Minor III.

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MUS-2311 Applied Bass III

02 Semester Credits

Third level private bass instruction for bass majors. Development of tone production, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for third semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-1312 Applied Bass II.

MUS-2312 Applied Bass IV

02 Semester Credits

Fourth level private bass instruction for bass majors. Development of tone production, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for fourth semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-2311 Applied Bass III.

MUS-2321 Applied Clarinet III

02 Semester Credits

Third level private clarinet instruction for clarinet majors. Development of tone production, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for third semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-1322 Applied Clarinet II.

MUS-2322 Applied Clarinet IV

02 Semester Credits

Fourth level private clarinet instruction for clarinet majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for fourth semester. End of semester performance recital required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-2321 Applied Clarinet III.

MUS-2331 Applied Flute III

02 Semester Credits

Third level private flute instruction for flute majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for third semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-1332 Applied Flute II.

MUS-2332 Applied Flute IV

02 Semester Credits

Fourth level private flute instruction for flute majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for fourth semester. End of semester performance recital required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-2331 Applied Flute III.

MUS-2341 Applied French Horn III

02 Semester Credits

Third level private French horn instruction for French horn majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for third semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-1342 Applied French Horn II.

MUS-2342 Applied French Horn IV

02 Semester Credits

Fourth level private French horn instruction for French horn majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for fourth semester. End of semester performance recital required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-2341 Applied French Horn III.

MUS-2351 Applied Guitar III

02 Semester Credits

Third level private guitar instruction for guitar majors. Development of tone production, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for third semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-1352 Applied Guitar II.

MUS-2352 Applied Guitar IV

02 Semester Credits

Fourth level private guitar instruction for guitar majors. Development of tone production, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for fourth semester. End of semester performance recital required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-2351 Applied Guitar III.

MUS-2361 Applied Oboe III

02 Semester Credits

Third level private oboe instruction for oboe majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for third semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-1362 Applied Oboe II.

MUS-2362 Applied Oboe IV

02 Semester Credits

Fourth level private oboe instruction for oboe majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for fourth semester. End of semester performance recital required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-2361 Applied Oboe III.

MUS-2371 Applied Percussion III

02 Semester Credits

Third level private percussion instruction for percussion majors. Development of technical facility, rhythmic control, tone production, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for third semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-1372 Applied Percussion II.

MUS-2372 Applied Percussion IV

02 Semester Credits

Fourth level private percussion instruction for percussion majors. Development of technical facility, rhythmic control, tone production, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for fourth semester. End of semester performance recital required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-2371 Applied Percussion III.

MUS-2381 Applied Piano III

02 Semester Credits

Third level private piano instruction for piano majors. Development of technical facility, rhythmic control, tone production, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for third semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-1382 Applied Piano II.

MUS-2382 Applied Piano IV

02 Semester Credits

Fourth level private piano instruction for piano majors. Development of technical facility, rhythmic control, tone production, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for fourth semester. End of semester performance recital required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-2381 Applied Piano III.

MUS-2391 Applied Saxophone III

02 Semester Credits

Third level private saxophone instruction for saxophone majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for third semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-1392 Applied Saxophone II.

MUS-2392 Applied Saxophone IV

02 Semester Credits

Fourth level private saxophone instruction for saxophone majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for fourth semester. End of semester performance recital required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-2391 Applied Saxophone III.

MUS-2401 Applied Trombone III

02 Semester Credits

Third level private trombone instruction for trombone majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for third semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-1402 Applied Trombone II.

MUS-2402 Applied Trombone IV

02 Semester Credits

Fourth level private trombone instruction for trombone majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for fourth semester. End of semester performance recital required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-2401 Applied Trombone III.

MUS-2411 Applied Trumpet III

02 Semester Credits

Third level private trumpet instruction for trumpet majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for third semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-1412 Applied Trumpet II.

MUS-2412 Applied Trumpet IV

02 Semester Credits

Fourth level private trumpet instruction for trumpet majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for fourth semester. End of semester performance recital required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-2411 Applied Trumpet III.

MUS-2421 Applied Tuba III

02 Semester Credits

Third level private tuba instruction for tuba majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for third semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-1422 Applied Tuba II.

MUS-2422 Applied Tuba IV

02 Semester Credits

Fourth level private tuba instruction for tuba majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for fourth semester. End of semester performance recital required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-2421 Applied Tuba III.

MUS-2431 Applied Viola III

02 Semester Credits

Third level private viola instruction for viola majors. Development of tone production, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for third semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-1432 Applied Viola II.

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MUS-2432 Applied Viola IV

02 Semester Credits

Fourth level private viola instruction for viola majors. Development of tone production, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for fourth semester. End of semester performance recital required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-2431 Applied Viola III.

MUS-2441 Applied Violin III

02 Semester Credits

Third level private violin instruction for violin majors. Development of tone production, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for third semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-1442 Applied Violin II.

MUS-2442 Applied Violin IV

02 Semester Credits

Fourth level private violin instruction for violin majors. Development of tone production, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for fourth semester. End of semester performance recital required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-2441 Applied Violin III.

MUS-2451 Applied Voice III

02 Semester Credits

Third level private voice instruction for voice majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for third semester. End of semester performance jury required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-1452 Applied Voice II.

MUS-2452 Applied Voice IV

02 Semester Credits

Fourth level private voice instruction for voice majors. Development of tone production, breath control, intonation, technical facility, rhythmic control, phrasing, stylistic interpretation and sight-reading skills. Development of standard repertoire including selected solo and method literature for fourth semester. End of semester performance recital required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: A private lesson and 14 hours of concentrated practice each week.

Prerequisite(s): MUS-2451 Applied Voice III.

MUS-2500 Music History and Literature I

03 Semester Credits

Chronological study of history and development of European classical music from origins through 18th century. Detailed attention to selected pieces from Medieval, Renaissance, Baroque, and Classical periods.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): MUS-1620 Traditional Theory II.

MUS-2510 Music History & Literature II

03 Semester Credits

Chronological study of history and development of European classical music from 19th century through present time. Detailed attention to selected pieces.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): MUS-1620 Traditional Theory II.

MUS-2520 Jazz History I

02 Semester Credits

Chronological study of history and development of classic jazz from origins through Swing period. Detailed attention to selected jazz masters and analysis of their most important works. *Lecture 02 hours. Laboratory 00 hours.*

Prerequisite(s): MUS-1650 Jazz Theory I.

MUS-2530 Jazz History II

02 Semester Credits

Chronological study of history and development of modern jazz from Bebop through present time. Detailed attention to selected jazz masters and analysis of their most important works. *Lecture 02 hours. Laboratory 00 hours.*

Prerequisite(s): MUS-1650 Jazz Theory I.

MUS-2600 Traditional Theory III

03 Semester Credits

Theory, analysis, and composition of European classical music from origins through 18th century. Detailed attention to selected pieces from Medieval, Renaissance, Baroque and Classical periods.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): MUS-1620 Traditional Theory II, and MUS-1630 Ear Training II.

MUS-2610 Ear Training III

02 Semester Credits

Third level identification of intervals, seventh chords, scales, phrases and harmonic function. Melodic and rhythmic dictation, sight singing, analytic and holistic listening.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): MUS-1630 Ear Training II.

Course Descriptions

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MUS-2620 Traditional Theory IV

03 Semester Credits

Theory, analysis, and composition of European classical music from 19th century through present time. Detailed attention to selected pieces.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): MUS-2600 Traditional Theory III, and MUS-2610 Ear Training III.

MUS-2630 Ear Training IV

02 Semester Credits

Fourth level identification of intervals, seventh chords, scales, phrases and harmonic function. Melodic and rhythmic dictation, sight singing, analytic and holistic listening.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): MUS-2610 Ear Training III.

MUS-2650 Jazz Theory II

02 Semester Credits

Second level study of theoretical foundations of jazz.

Includes diatonic and chromatic harmony, harmonic embellishment and substitution, voicings, rhythm, blues progressions and forms, phrase analysis, lyric import and analysis of transcribed solos and compositions from jazz repertoire.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): MUS-1650 Jazz Theory I.

MUS-2660 Jazz Theory III

02 Semester Credits

Third level study of theoretical foundations of jazz. Includes modal structures, rhythm changes and substitutions; composition and improvisation; implications of lyrics on structure and articulation; and analysis of transcribed solos and compositions from jazz repertoire, including American standard song.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): MUS-2650 Jazz Theory II.

MUS-2670 Jazz Performance and Improvisation III

02 Semester Credits

Third level study of improvisation within jazz style and presentation as performance. Includes phrasing, minor ii-V-i, modal minor, chord structures and common progressions in all keys, and memorization of standard repertoire.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): MUS-1680 Jazz Performance and Improvisation II.

MUS-2680 Jazz Performance and Improvisation IV

02 Semester Credits

Fourth level study of improvisation within jazz style and presentation as performance. Includes performance of accumulated repertoire, blues composition, refined group playing and performance of memorized standard repertoire in all keys.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): MUS-2670 Jazz Performance and Improvisation III.

MUS-2710 Arranging II

02 Semester Credits

Building on the rhythm section, this study concentrates on writing for trumpet, trombone and saxophone individually, in combination and as instrumental families. Ranges, tonal color, combinations in the context of an arrangement are investigated. Further development of skills introduced in Arranging I.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): MUS-1720 Arranging I, or departmental approval.

MUS-2720 Arranging III

02 Semester Credits

Development of the linear approach of multiple horn scoring, focusing on backgrounds, supporting lines, and contrapuntal devices as well as melodic presentation; further development of the skills introduced in Arranging II. Elements of arranging for the large ensemble and studio orchestra will be introduced.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): MUS-2710 Arranging II, or departmental approval.

MUS-2740 Internship

01-03 Semester Credits

Provides student with on-the-job application of skills learned in the liberal arts and specifically Music. Each internship based on individualized learning contract. Requirement for one credit is 180 hours of approved work per semester.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Internship: 180 clock hours of approved work per credit hour.

Prerequisite(s): Departmental approval: completion of 30 semester credits; completion of 15 semester credits at Cuyahoga Community College; 2.75 GPA; completion of 20 semester credits in liberal arts; completion of 9 semester credits in Music; two letters of recommendation from liberal arts faculty, one of which must be from area of placement.

MUS-2800 Special Advanced Topics in Music

1-3 Semester Credits

MUS-281T Special Advanced Laboratory Topics in Music

1-3 Semester Credits

Specialized three-hour lab per credit.

MUS-2820 Independent Advanced Study in Music

1-3 Semester Credits

Nursing - NURS

NURS-1300 Health Assessment

02 Semester Credits

Focuses on development of assessment skills including obtaining a health history, performing physical assessment of the adult, and evaluating physiologic changes related to aging. Major emphasis on developing interviewing skills, assessing cultural factors, and utilizing basic assessment techniques. Documentation and reporting of findings discussed. Laboratory screening procedures introduced.

Lecture 01 hour. Laboratory: On-campus: 03 hours.

Prerequisite(s): Departmental approval: admission to Associate Degree Nursing program or Practical Nursing program.

NURS-1401 Self-Care Needs

04 Semester Credits

Focuses on basic nursing care of adults with self-care deficits. Introduces major nursing curriculum themes: nursing process, communication, human development, cultural diversity, and role of associate degree nurse. Basic concepts of pharmacology and normal nutrition presented.

Lecture 02 hours.

Laboratory: On-campus and Clinical: 06 hours.

Prerequisite(s): NURS-1300 Health Assessment, or concurrent enrollment; BIO-2330 Anatomy and Physiology I, or concurrent enrollment; and PSY-2020 Life Span Development, or concurrent enrollment; and departmental approval: admission to Nursing program.

NURS-1500 Self-Care -- Elderly

04 Semester Credits

Study of specialized care of elderly and nursing care of chronic conditions which occur most commonly in elderly. Emphasis on major curriculum themes: nursing process, communication, human development, cultural diversity and role of associate degree nurse.

Lecture 02 hours.

Laboratory: On-campus and Clinical: 06 hours.

Prerequisite(s): NURS-1300 Health Assessment, or concurrent enrollment; NURS-1401 Self-Care Needs, or concurrent enrollment; BIO-2330 Anatomy and Physiology I, or concurrent enrollment; and PSY-2020 Life Span Development, or concurrent enrollment.

NURS-1600 Health Deviations I

08 Semester Credits

Focuses on patient with acute and chronic health deviations. Orem's principles of self-care and nursing process provide framework for delivery of nursing care to patients from puberty throughout adulthood. Emphasis on health deviations related to respiratory and musculoskeletal function, fluid and electrolyte balance, reproductive, infectious and urologic disorders, surgery, diabetes, pain and oncology.

Lecture 04 hours.

Laboratory: On-campus and Clinical: 12 hours.

Prerequisite(s): NURS-1500 Self-Care - Elderly; BIO-2340 Anatomy and Physiology II, or concurrent enrollment; and BIO-2500 Microbiology, or concurrent enrollment.

NURS-160A Access to Registered Nursing

03 Semester Credits

Designed to facilitate transition of Licensed Practical Nurses into Associate Degree Nursing program. Concepts related to role of associate degree nurse, therapeutic communication, nursing process and teaching/learning.

Lecture 02 hours. Laboratory: On-campus: 02 hours.

Prerequisite(s): Departmental approval.

NURS-160B Health Deviations I for LPNs

04 Semester Credits

Designed for Licensed Practical Nurses entering the Associate Degree Nursing program with advanced credit. Introduces nursing curriculum themes. Focuses on health deviations related to fluid and electrolyte balance, urologic disorders, diabetes and oncology.

Lecture 02 hours.

Laboratory: On-campus and Clinical: 06 hours.

Prerequisite(s): NURS-160A Access to Registered Nursing, or concurrent enrollment; BIO-2340 Anatomy and Physiology II, or concurrent enrollment; BIO-2500 Microbiology, or concurrent enrollment; PSY-2020 Life Span Development, or concurrent enrollment; and departmental approval: admission to Associate Degree Nursing program.

NURS-1701 Community/Home Nursing

01 Semester Credit

Principles and competencies related to community health nursing are presented within framework of critical thinking, cultural sensitivity, and self-care. Emphasis on health promotion, risk reduction, disease management, and self-care of individuals and groups within home and community. Students utilize nursing process as applied to community health nursing concepts to plan care for individuals, families, and specific populations in selected structured and unstructured community settings throughout nursing program curriculum.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): NURS-1600 Health Deviations I, or concurrent enrollment.

NURS-2300 Specialized Health Care Needs

09 Semester Credits

Focuses on nursing process, developmental self-care needs, and health deviation self-care needs of specialized population which includes childbearing families, children and their families, and individuals with deviations in mental health. Therapeutic communication techniques, teaching/learning strategies, cultural diversity, human growth and development, and role of associate degree nurse integrated as related to nursing care.

Lecture 05 hours.

Laboratory: On-campus and Clinical: 12 hours.

Prerequisite(s): NURS-1600 Health Deviations I; or NURS-160B Health Deviations I for LPN's and NURS-1701 Community/Home Nursing.

NURS-2400 Health Management

01 Semester Credit

Capstone course in Nursing. Exploration of role of associate degree nurse and transition into practice emphasizing major health care issues, trends and patterns of care. Presentation and analysis of management concepts in health care organizations.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): Concurrent enrollment in NURS-2500 Health Deviations II and departmental approval.

NURS-2500 Health Deviations II

09 Semester Credits

Focuses on chronic, acute and critically ill patient. Utilizes Orem's principles of self-care and nursing process for provision of care to culturally diverse patients and groups of patients. Emphasizes care required to meet preventative, therapeutic and rehabilitative self-care deficits. Principles of management applied through nursing leadership experience.

Lecture 04 hours.

Laboratory: On-campus and Clinical: 15 hours.

Prerequisite(s): Concurrent enrollment in NURS-2400 Health Management and departmental approval.

NURS-2820 Independent Advanced Study in Nursing

1-3 Semester Credits

Specific content and objectives to be arranged between instructor and student. May be repeated for a maximum of six credits.

Lecture 0-3 hours. Laboratory 0-9 hours.

Prerequisite(s): Departmental approval.

Occupational Therapy Assistant Technology - OTAT

OTAT-1300 Occupational Therapy Principles

02 Semester Credits

Overview of history, development, philosophy, theory and practice of occupational therapy profession; discussion of the role and responsibilities of the occupational therapy assistant; study of models of health, illness, wellness, therapeutic and professional relationships; exploration of cultural, ethical and legal issues in health care; roles and education of occupational therapy personnel and professional organizations.

Lecture 02 hours. Laboratory 00 hours. Prerequisite(s): None.

OTAT-1310 Task Analysis

02 Semester Credits

Occupational therapy practice uses activities and tasks in achieving therapeutic goals in the treatment and rehabilitation of persons with occupational performance dysfunction resulting from disease or disability. Activities and tasks used in therapy to facilitate communication; develop relationships; increase self esteem; and assess and develop specific sensory, motor, psychological, social, and cognitive skills for learning, organizing work, and solving problems.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): BIO-2330 Anatomy and Physiology I, or concurrent enrollment; and departmental approval.

OTAT-1320 Fundamentals of Developmental Disabilities

02 Semester Credits

Overview of developmental disabilities including physical and psychosocial conditions commonly referred to and treated by occupational therapists.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): OTAT-1300 Occupational Therapy Principles, and departmental approval.

OTAT-1330 Techniques in Developmental Disabilities

03 Semester Credits

Application of occupational therapy skills and techniques used in treatment programs planned for persons with developmental disabilities.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): OTAT-1310 Task Analysis, and departmental approval.

OTAT-1420 Fundamentals of Psychosocial Dysfunction

02 Semester Credits

Overview of psychosocial issues and psychiatric diagnoses in mental health and other clinical settings commonly referred to occupational therapy for treatment. Focuses on signs, symptoms and effects that mental illness and psychosocial issues have on an individual's life tasks and roles.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): PSY-2020 Life Span Development, or concurrent enrollment; and OTAT-1320 Fundamentals of Developmental Disabilities.

OTAT-1430 Techniques in Psychosocial Dysfunction

03 Semester Credits

Designed to familiarize student with a variety of therapeutic techniques, processes, and programming used by occupational therapists treating individuals with psychosocial dysfunction. Emphasis on self awareness and group dynamics relevant to clinical settings serving clients with psychological and psychiatric disorders.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): OTAT-1330 Techniques in Developmental Disabilities, and departmental approval.

OTAT-1800 Special Topics in Occupational Therapy

1-3 Semester Credits

OTAT-1850 Practicum I

02 Semester Credits

Under supervision of assigned agency personnel, students apply knowledge, skills and techniques learned in concurrent OTAT courses and weekly discussion seminar. Assignment to agencies includes traditional and non-traditional settings serving clients with developmental disabilities.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 105 hrs./semester.

Seminar: 15 hrs./semester.

Prerequisite(s): OTAT-1310 Task Analysis, and departmental approval.

OTAT-1860 Practicum II

02 Semester Credits

Under supervision of assigned agency personnel, students apply knowledge, skills and techniques learned in concurrent OTAT courses and weekly discussion seminar. Assignment to agency includes traditional and non-traditional settings serving clients with psychosocial dysfunctions.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 105 hrs./semester.

Seminar: 15 hrs./semester.

Prerequisite(s): PSY-2020 Life Span Development, or concurrent enrollment; and departmental approval.

OTAT-2320 Fundamentals of Physical Dysfunction

04 Semester Credits

Overview of physical disabilities including physical and psychosocial conditions commonly referred to and treated by occupational therapist. Presented within developmental frame of reference covering adult through old age.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): PTAT-1300 Functional Anatomy; OTAT-1420 Fundamentals of Psychosocial Dysfunction; and OTAT-1430 Techniques in Psychosocial Dysfunction.

OTAT-2330 Techniques in Physical Disabilities

04 Semester Credits

Overview of occupational therapy treatment strategies and techniques for physically disabled adults from late adolescence to end of life. Emphasis on current, authentic and effective occupational therapy practice.

Lecture 03 hours. Laboratory 03 hours.

Prerequisite(s): PTAT-1300 Functional Anatomy, and OTAT-1430 Techniques for Psychosocial Dysfunction.

OTAT-2340 Occupational Therapy Issues

03 Semester Credits

Capstone course in Occupational Therapy Assisting. Integrates knowledge and skills acquired in academic work and field practice placements to clarify role and function of Certified Occupational Therapy Assistant; evolving issues, concepts and responsibility to professional organizations; credentialing process; research; continuing education and public relations. Role of COTA as activities director.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): OTAT-2330 Techniques in Physical Disabilities, or concurrent enrollment.

OTAT-2800 Special Advanced Topics in Occupational Therapy

1-3 Semester Credits

OTAT-2820 Independent Advanced Study in Occupational Therapy

1-3 Semester Credits

OTAT-2860 Practicum III

02 Semester Credits

Under supervision of assigned agency personnel, students apply knowledge, skills and techniques learned in concurrent OTAT courses and weekly discussion seminar. Assignments to health care agencies include, but are not limited to, hospitals, nursing homes, and rehabilitation centers serving adult and/or geriatric populations with physical conditions referred to occupational therapy.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 105 hrs./semester.

Seminar: 15 hrs./semester.

Prerequisite(s): OTAT-1860 Practicum II, and departmental approval.

OTAT-2940 Field Experience

03 Semester Credits

Students assigned to two consecutive 8-week full-time field placements under supervision of licensed occupational therapists. Provides student opportunities to apply principles and techniques learned in previous courses to actual treatment situations in preparation for entry level practice.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Field experience: 576 hours per semester.

Prerequisite(s): OTAT-2320 Fundamentals of Physical Dysfunction; OTAT-2330 Techniques in Physical Disabilities; OTAT-2860 Practicum III; and departmental approval.

Optical Technology - OPT

OPT-1310 Theoretical Optics I

02 Semester Credits

History of optical field, manufacturing of glasses and plastic lenses. Introduction to modern lens theory and construction and basis for design.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to program.

OPT-1320 Theoretical Optics II

02 Semester Credits

Study of types of astigmatic refraction errors, optics of cylinder, transposition, and neutralization.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): OPT-1310 Theoretical Optics I.

OPT-1410 Mechanical Optics I

02 Semester Credits

Introduction to ophthalmic laboratory procedures. Abrasive cutting, lapping, surface inspection, and calculations for prisms and spheres. Care of laboratory equipment.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): Departmental approval: admission to program.

OPT-1420 Mechanical Optics II

02 Semester Credits

Accommodations, visual fields, and multifocal types.

Anisometropia and bicentric grinding calculations. Surfacing techniques for various bifocal types.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): OPT-1410 Mechanical Optics I.

OPT-1510 Optical Dispensing I

03 Semester Credits

Introduction, history, and development of modern opticianry, spectacles, fitting procedures. Principles of interpersonal relationships. Instruction in basic frame types and parts.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): Departmental approval: admission to Optical Technology program.

OPT-1520 Optical Dispensing II

03 Semester Credits

Verification of prescription, ordering correct absorptive or tinted lenses, basic frame markings and measurements, inserting into frame, and keeping accurate records for future use.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): OPT-1510 Optical Dispensing I.

OPT-1610 Contact Lens I

02 Semester Credits

Focuses on history of contact lenses, differences between hard and soft contact lenses, and physical and physiological properties of contact lenses.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to program.

OPT-1620 Contact Lens II

03 Semester Credits

Principles of operation and design of instruments applicable to fitting of contact lenses. Optical principles and materials applicable to design processes and relationship to physical condition and structure of eye in its abnormal state.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): OPT-1610 Contact Lens I.

OPT-1800 Special Topics in Optical Technology

1-3 Semester Credits

OPT-1820 Independent Study in Optical Technology

1-3 Semester Credits

OPT-2500 Optical Business

02 Semester Credits

Capstone course in Optical Technology. Responsibilities in optical department: performance reviews, hiring personnel, scheduling work hours, inventory control, financial data, and goal emphasis.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval.

OPT-2650 License Review Spectacle

01 Semester Credit

Focus on key optical concepts as they relate to spectacles with an in-depth look at theory, optical nomenclature, and test domains outlined by the American Board of Opticianry Exam.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): Departmental approval.

OPT-2660 License Review Contact Lens

01 Semester Credit

Focus on key optical concepts as they relate to contact lenses with in-depth look at theory, optical nomenclature, and test domains outlined by the National Contact Lens Exam.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): Departmental approval.

OPT-2670 Optical Development

02 Semester Credits

Focus on key industry updates as they relate to opticianry and the health care profession. Noted guest speakers in the industry will discuss the present day realities of opticianry and the health care profession.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval.

OPT-2800 Special Advanced Topics in Optical Technology

1-3 Semester Credits

OPT-2820 Independent Advanced Study in Optical Technology

1-3 Semester Credits

OPT-2861 Optical Practicum I

03 Semester Credits

Supervised field experience in clinical health care setting designed to emphasize role of a dispensing optician. Students assigned to clinical sites under direct supervision of licensed opticians to gain exposure to professional practice. Students expected to demonstrate advancing assessment skills and assume more individual responsibility as a member of an optical department. Working in a manager position may be included in the assignment.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 336 hours per semester (16 weeks)

Prerequisite(s): Concurrent enrollment in OPT-2970 Optical Seminar I, and departmental approval.

OPT-2870 Optical Practicum II

03 Semester Credits

Supervised field experience in clinical health care setting designed to emphasize the role of a dispensing optician. Students assigned to clinical sites under direct supervision of a licensed optician. Students will take on advanced responsibilities and have more input into the decision making process. Students will be expected to demonstrate advanced assessment skills in patient care, business management, and assume more individual responsibility as a member of an optical team. The student will be expected to attend office meetings and seminars that relate to the decision process, and have input into that process.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum Experience: 336 hours per semester (16 weeks).

Prerequisite(s): OPT-2861 Optical Practicum I, and concurrent enrollment in OPT-2980 Optical Practicum Seminar II.

OPT-2970 Optical Practicum Seminar I

03 Semester Credits

Integrates concepts and knowledge gained from field experience rotations into total learning process. Focus on patient and professional communication, and lifelong learning. Other discussions on current issues included.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Concurrent enrollment in OPT-2861 Optical Practicum I.

OPT-2980 Optical Practicum Seminar II

03 Semester Credits

Integrates advanced concepts and knowledge gained from field experience into total learning process. Focus on organization of health care delivery system. Students use more advanced skills and management techniques, payroll, hiring, termination skills, and labor relations. Other discussions on current issues included.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Concurrent enrollment in OPT-2870 Optical Practicum II.

Paralegal Studies - PL

PL-1000 Introduction to Paralegal Profession

02 Semester Credits

Discussion of practical realities of legal field; special emphasis on legal status of paralegals and ethical constraints placed upon those involved in legal profession. Students introduced to specific paralegal skills, various legal settings, overview of U.S. legal system, and organization of typical law case. Students expected to begin professional development, including exploring employment opportunities and paralegal organizations.

Lecture 02 hours. Laboratory 00 hours. Prerequisite(s): None.

PL-1300 Civil Procedure

03 Semester Credits

Study of Rules of Civil Courts which govern civil lawsuits, with emphasis on Ohio Rules of Procedure. Examination of reading, interpretation, and commencement of action, service, motion practice and discovery. Students begin portfolio of legal documents developed throughout program of study. Study alternatives to litigation such as arbitration, negotiation, and mediation.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to program.

PL-1400 Basic Legal Research and Writing

03 Semester Credits

Introduction to skills essential to effective identification, analysis and research of legal issues. Students learn to formulate research plans that require efficient use of basic research tools to locate primary and secondary authority. Practice in accessing sources commonly used by state court system, and drafting projects, such as in-house legal memorandum and opinion letter, consistent with professional standards of style and citation. Emphasis on validating research and quickly accessing statutory and case law.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): Departmental approval: admission to program.

PL-1460 Workers' Compensation Law

03 Semester Credits

Study of Ohio Bureau of Workers' Compensation and Industrial Commission of Ohio, with emphasis on claims and procedures involving injured workers and benefits available. Preparation of forms to access compensation for injuries, employer defenses, and appeal procedures.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): BADM-2340 Human Resource Law and Application, or departmental approval: admission to Paralegal Studies program.

Course Descriptions

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PL-1501 Law Office Technology

02 Semester Credits

Introduction to specific computer software utilized in law offices including calendaring, billing, docketing and indexing programs. Involves using word processing, spreadsheet and data software to create and manage legal documents and files. Activities constructed to simulate law office experiences and tasks. This course designed for the student already conversant with the basic functions of word processing, database management, and spreadsheet design. Focus on use of computers related to paralegal functions in timekeeping, docket control, litigation support, and case management.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): IT-1010 Introduction to Microcomputer

Applications, or departmental approval: equivalent experience or skills.

PL-1600 Alternative Dispute Resolution

02 Semester Credits

Description and overview of a variety of dispute resolution mechanisms, including litigation, voluntary arbitration, court-annexed or mandatory arbitration, negotiation, and mediation, in order to demonstrate their interrelationships and their use in the American legal system. Paralegal involvement will be discussed in the context of each of these techniques.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): PL-1000 Introduction to Paralegal Profession, and PL-1300 Civil Procedure, or departmental approval.

PL-1800 Special Topics in Paralegal Studies

1-3 Semester Credits

PL-1820 Independent Study in Paralegal Studies

1-3 Semester Credits

PL-2000 Law Office Administration

02 Semester Credits

Fundamentals of law office management and organization. Includes basic principles and structure of management, employment opportunities for the paralegal, accounting systems, marketing issues, administrative and substantive systems in the law office, and law practice technology.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): Departmental approval, or admission to the program.

PL-2030 Legal Nurse Consulting

02 Semester Credits

Study of functions of Legal Nurse Consultant and exploration of career opportunities available. Focus on applicable principles of medical and legal ethics and how to apply them to professional situations.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval.

PL-2301 Torts and Evidence

04 Semester Credits

Fundamental principles of tort law (personal injury, malpractice, intentional tort, and products liability) to explore paralegal responsibilities in trial setting. Students collect and prepare evidence according to Ohio and Federal rules of evidence.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): PL-1300 Civil Procedure, and PL-1400 Basic Legal Research and Writing.

PL-2330 Advanced Medicolegal Research

03 Semester Credits

Lexis, med-line, and internet research. Emphasis on legal and medical resources using legal and medical databases on-line, including the internet. Focuses on medical research used in determining appropriate standards of care and medical research tools.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): PL-2030 Legal Nurse Consulting, and PL-1400 Basic Legal Research and Writing.

PL-2400 Computer Assisted Legal Research

03 Semester Credits

Explores differences between traditional and electronically-accessed legal research. After reviewing traditional research and citation techniques, students examine theory and practical aspects of computer-assisted legal research (CALR), formulating research requests and processing, compiling and evaluating research using commercial data base, CD-ROM databases, and Internet. Students use both Boolean and "Natural Language" searches in different systems. Will locate and use "The Ohio Rules of Appellate Procedure" and prepare appellate brief using Ohio citation format.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): PL-1400 Basic Legal Research and Writing, and departmental approval: computer competency skills.

PL-2410 Intellectual Property

03 Semester Credits

Overview of intellectual property, including review of the basics of personal property law, contract law and how and why each relates to ownership and transfer of intellectual property. Examination of trade secrets, patents, trademarks and service marks, and copyrights. Discussion of what is protected, duration of protection, fair use doctrine, and theft of service statutes.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval, or admission to program.

PL-2420 Probate Law

03 Semester Credits

[formerly PL-1420]

Study of common forms for estate administration, including a study of Ohio Probate Code relating to post-mortem estate administration. Focus on procedure for estate administration including discovery and determination of assets, appointment of fiduciary, taxation and transfer of property from decedent to beneficiaries. Study of forms of ownership of property.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to program.

PL-2430 Medical Record Review and Analysis

04 Semester Credits

Study of production and preparation of medical record summaries. Focus on performance of investigative functions and witness preparation. Topics include identifying standards of care; accessing, interpreting, and summarizing medical records; and interviewing clients, medical witnesses and experts. Lab component offers student variety of computer and professional experience. Continued development of professional portfolio.

Lecture 03 hours. Laboratory 02 hours.

Prerequisite(s): PL-2301 Torts and Evidence or concurrent enrollment, and PL-2330 Advanced Medicolegal Research or concurrent enrollment; or departmental approval.

PL-2440 Business Transactions

03 Semester Credits

Introduction to the laws that structure various business relationships such as agency, contracts, bailments, sales, secured transactions and commercial paper. Utilization of appropriate forms to structure such relationships.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): PL-1300 Civil Procedure, and PL-1400 Basic Legal Research and Writing.

PL-2460 Business Organizations

03 Semester Credits

Introduction to various business entities including sole proprietorships, partnerships, corporations, and licensed professional associations. Drafting of partnership agreements and incorporation documents. Introduction to tax consideration and Securities and Exchange Commission ramifications.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): PL-1300 Civil Procedure, and PL-1400 Basic Legal Research and Writing.

PL-2520 Debtor/Creditor Law

03 Semester Credits

Study of basic legal principles governing rights and duties of debtors and creditors. Introduction to Law of Bankruptcy, specifically Chapters 7, 11, and 13 of the United States Bankruptcy Code and applicable Ohio law. Preparation of bankruptcy petitions, related schedules and documents needed for initial filing of petitions. Debt counseling protection, compromise and collection techniques including garnishment, foreclosure and attachment of personal property explored.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): PL-1300 Civil Procedure, or departmental approval: admission to program.

PL-2530 Marketing and Management for the Legal Nurse Consultant

01 Semester Credit

Development of skills necessary to be an independent consultant. Focus on marketing techniques, client development, case management, billing, promotional tools, and tax implications for the legal nurse consultant.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): PL-1300 Civil Procedure, PL-2430 Medical Record Review and Analysis or concurrent enrollment, and departmental approval.

PL-2540 Family Law

03 Semester Credits

Basic principles and trends in Family Law including marriage, annulment, dissolution, divorce, child support, child custody, visitation, paternity, surrogacy and adoption. Emphasis on ethical issues, drafting of appropriate documents, preparing discovery, court proceedings, computer-assisted calculation, and conducting interviews to obtain sensitive client information.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): PL-1300 Civil Procedure, or departmental approval: admission to program.

PL-2560 Advanced Litigation

03 Semester Credits

Preparation of case for litigation using creation of trial notebook and mock trial. Students gather, draft, organize and summarize trial documents and prepare for courtroom demonstration of litigation process.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): PL-1300 Civil Procedure; and PL-2301 Torts and Evidence, or concurrent enrollment.

PL-2800 Special Advanced Topics in Paralegal Studies

01-03 Semester Credits

PL-2820 Independent Advanced Study in Paralegal Studies

1-3 Semester Credits

PL-2851 Paralegal Practicum

01 Semester Credit

Provides supervised work experience in law firm or other legal setting. Student obtains actual work experience by performing paralegal duties under direct supervision of attorney and/or paralegal.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 10 hours per week.

Prerequisite(s): Concurrent enrollment in PL-2990 Paralegal Capstone; and departmental approval: completion of all required courses and completion of all program requirements.

PL-2990 Paralegal Capstone

02 Semester Credits

Capstone course in Paralegal Studies. Students will discuss experiences gained from practical experience. Review of major skills developed during paralegal program.

Completion of portfolio; review of ethics of the profession.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: completion of all required courses and completion of all program requirements.

Pharmacy Technology - PHM

PHM-1300 Introduction to Pharmacy Practice

03 Semester Credits

Overview of fundamentals of pharmacy practice including technician's role in drug distribution in various settings; and pharmacy abbreviations and terminology, history, management, organizations, information resources, regulations, law and ethics, and basic job search skills.
Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

PHM-1350 Pharmacy Practice I

03 Semester Credits

Overview of fundamentals of pharmacy practice in various practice settings with respect to safe and accurate preparation and distribution of sterile and non-sterile topical and parenteral medications. Students learn the technician's role in drug preparation, drug packaging, and drug labeling.
Lecture 02 hours. Laboratory 03 hours. Prerequisite(s): Departmental approval: admission to program.

PHM-1360 Pharmacy Practice II

03 Semester Credits

Fundamentals of pharmacy practice including technician's role in drug distribution in community, home health care, nursing home, and alternative practice settings. Focuses on oral and topical dosage forms including handling, preparation, packaging, labeling, and distribution.
Lecture 02 hours. Laboratory 03 hours. Prerequisite(s): PHM-1350 Pharmacy Practice I, or departmental approval.

PHM-1450 Pharmacology and Therapeutic Principles I

03 Semester Credits

Overview of fundamentals of pharmacology including drug classification, brand and generic drug nomenclature, common drug therapy associated with various disease states, drug indications, side effects, and parameters for safe drug usage.
Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): Departmental approval: admission to program.

PHM-1460 Pharmacology and Therapeutic Principles II

03 Semester Credits

Fundamentals of pharmacology including drug classification, brand and generic drug nomenclature, common drug therapy associated with various disease states, drug indications, side effects, and parameters for safe drug usage.
Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): PHM-1450 Pharmacology and Therapeutic Principles I, or departmental approval.

PHM-1800 Special Topics in Pharmacy Technology

1-3 Semester Credits

PHM-181T Special Laboratory Topics in Pharmacy Technology

1-3 Semester Credits

Specialized three-hour lab per credit.

PHM-1860 Pharmacy Technology Practicum I

03 Semester Credits

Supervised practical field experience designed to emphasize role of technician in various traditional practice settings. Students assigned to practicum training sites and work under direct supervision of registered pharmacists and certified pharmacy technicians to gain exposure to professional practices.
Lecture 00 hours. Laboratory 00 hours. Other Required Hours: Practicum: 14 hours per week. Seminar: 1 hour per week. Prerequisite(s): PHM-1300 Introduction to Pharmacy Practice; PHM-1350 Pharmacy Practice I; PHM-1450 Pharmacology and Therapeutic Principles I; and departmental approval: site assignments.

PHM-2701 Current Topics in Pharmacy Practice

04 Semester Credits

Capstone course in Pharmacy Technology. Current topics and changes in practice of pharmacy detailed. Among topics discussed: current advances in medications; changing role of pharmacist and pharmacy technician; review of pharmaceutical calculations, substance abuse, biotechnology, AIDS and other communicable diseases; current health issues facing men, women and children of diverse cultures; drug approval process; critical thinking and problem solving in pharmacy practice; consumer awareness of natural products including current information on herbal products, medication errors, and current status of automation in pharmacy.
Lecture 04 hours. Laboratory 00 hours. Prerequisite(s): PHM-1350 Pharmacy Practice I; PHM-1360 Pharmacy Practice II; PHM-1860 Pharmacy Technology Practicum I; and departmental approval.

PHM-2820 Independent Advanced Research in Pharmacy Technology

1-3 Semester Credits

PHM-2860 Pharmacy Technology Practicum II

03 Semester Credits

Supervised practical field experience. Emphasis on role of technician in various traditional and non-traditional practice settings. Students assigned to practicum training sites and work under direct supervision of registered pharmacists and certified pharmacy technicians to gain exposure to professional pharmacy practices. Students expected to assume more responsibility and work with less individualized attention.
Lecture 00 hours. Laboratory 00 hours. Other Required Hours: Practicum: 14 hours per week. Seminar: 1 hour per week. Prerequisite(s): PHM-1860 Pharmacy Technology Practicum I; PHM-2701 Current Topics in Pharmacy Practice, or concurrent enrollment; and departmental approval.

PHM-2870 Pharmacy Technology Practicum III

03 Semester Credits

Supervised practical field experience. For students who need additional experience in IV admixture, sterile technique, or other advanced pharmacy practice.
Lecture 00 hours. Laboratory 00 hours. Other Required Hours: Practicum: 14 hours per week. Seminar: 1 hour per week. Prerequisite(s): PHM-2860 Pharmacy Technology Practicum II, and departmental approval.

Philosophy - PHIL

PHIL-1000 Critical Thinking

03 Semester Credits

Principles of critical and creative thinking with emphasis on practical applications.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

PHIL-1010 Introduction to Philosophy

03 Semester Credits

Basic concepts, reasoning skills, and attitudes employed in philosophical inquiry. Study and analysis of perennial philosophical problems through critical examination of writings of classical and contemporary philosophers.

Prepares students for further work in philosophy and any area of learning requiring reasoned views.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

PHIL-101H Honors Introduction to Philosophy

03 Semester Credits

Introduction to basic concepts, reasoning skills, and attitudes employed in philosophical inquiry. Study and analysis of perennial philosophical problems through critical examination of writings of classical and contemporary philosophers. Emphasis on an in-depth study of primary sources within philosophical tradition. Prepares students for further work in philosophy and any area of learning requiring reasoned views.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-101H Honors College Composition I, or departmental approval.

PHIL-1020 Introduction to Logic

03 Semester Credits

Introduction to evaluation of arguments. Concentration on basic principles of formal logic and application to evaluation of arguments. Explores notions of implication and proof and use of modern techniques of analysis.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

PHIL-1800 Special Topics in Philosophy

1-3 Semester Credits

PHIL-1820 Independent Study in Philosophy

1-3 Semester Credits

PHIL-2010 Comparative World Religions

03 Semester Credits

Study of origin, nature, and meaning of major world religions: Judaism, Christianity, Islam, Buddhism, Hinduism, and Confucianism.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

PHIL-2020 Ethics

03 Semester Credits

Study of systems and problems of human conduct with applications to moral problems and decisions.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

PHIL-2030 Introduction to the Philosophy of Science

03 Semester Credits

Study of concept formation in science and examination of patterns of scientific investigation and method. Treatment of concepts such as observation, classification, causality, law of nature, explanation, and theory.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

PHIL-2040 Philosophy of Art

03 Semester Credits

Examination of types of art theories, their implications for art interpretation, art criticism, creative activity of artist, and appreciation of art objects.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

PHIL-2050 Bioethics

03 Semester Credits

Study and analysis of moral philosophy as applied to issues in health and life sciences with emphasis on developing students' abilities to correctly identify moral problems and defend their moral judgments.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

PHIL-2800 Special Advanced Topics in Philosophy

1-3 Semester Credits

PHIL-2820 Independent Advanced Study in Philosophy

1-3 Semester Credits

Physical Education- PE

PE-1000 Personal Fitness

02 Semester Credits

Introduction to techniques, principles and benefits of personal conditioning program including flexibility, cardiovascular fitness and muscle endurance training.
Lecture 01 hour. Laboratory 02 hours. Prerequisite(s): None.

PE-1010 Personal Strength Development

02 Semester Credits

Activities which incorporate five components of fitness: body composition, cardiovascular fitness, muscle strength, muscle endurance and flexibility with emphasis on strength training.

Lecture 01 hour. Laboratory 02 hours. Prerequisite(s): None.

PE-1020 Weight Training

01 Semester Credit

Basic instruction in theory of using weights to improve muscular fitness and in fundamentals of correct lifting techniques using dumbbells, nautilus, universal and/or various other machines.

Lecture 00 hours. Laboratory 02 hours. Prerequisite(s): None.

PE-1030 Introduction to Lifetime Fitness I

02 Semester Credits

Participation in basic total wellness/fitness education program. Through instruction, supervision, and evaluation, student will exercise with increased knowledge on how to develop a safe fitness program for his/her goals and needs. Additional fees required.

Lecture 01 hour. Laboratory 02 hours. Prerequisite(s): None.

PE-1040 Introduction to Lifetime Fitness II

01 Semester Credit

Designed for students who have completed Individual Circuit Fitness I and desire a more individualized total wellness/fitness education program. Additional fees required.

Lecture 00 hours. Laboratory 02 hours.

Prerequisite(s): PE-1030 Individual Circuit Fitness I.

PE-1050 Adapted Lifetime Fitness

01 Semester Credit

Designed for student who desires to participate in individualized circuit training program and has physical limitations which prevent participation in individualized current fitness courses. Students must be registered with Access Office to enroll. Contact Director for Physical Education. Additional fees required.

Lecture 00 hours. Laboratory 02 hours.

Prerequisite(s): Departmental approval: must be registered with Access Office.

PE-1060 Cardio-Fitness

01 Semester Credit

Cardio/respiratory conditioning class, consisting of flexibility and aerobic conditioning exercises and use of variety of training machines.

Lecture 00 hours. Laboratory 02 hours. Prerequisite(s): None.

PE-1070 Walking/Jogging

01 Semester Credit

Introduces walking/jogging activities including warm-up, stretching, and cool down.

Lecture 00 hours. Laboratory 02 hours. Prerequisite(s): None.

PE-1080 Low Impact Aerobics

01 Semester Credit

Instruction and practice in aerobic dance movements which involve minimum stress of joints. Includes exercises to improve cardiovascular fitness, flexibility, and muscle tone.

Lecture 00 hours. Laboratory 02 hours. Prerequisite(s): None.

PE-1090 High-Low Aerobics

01 Semester Credit

Instruction and practice in high-low aerobic movements with emphasis on individual performance levels and ways to improve cardiovascular endurance, flexibility and muscle tone.

Lecture 00 hours. Laboratory 02 hours. Prerequisite(s): None.

PE-1100 Step Aerobics

01 Semester Credit

Instruction and practice in aerobic dance movements utilizing a step with emphasis on individual performance levels including techniques to improve cardiovascular fitness, flexibility, muscle tone and strength.

Lecture 00 hours. Laboratory 02 hours. Prerequisite(s): None.

PE-1110 Intermediate Step Aerobics

01 Semester Credit

Emphasizes aerobic dance movements utilizing a step with emphasis on individual performance levels. Students should have step aerobics experience and knowledge of basic step movements and terminology.

Lecture 00 hours. Laboratory 02 hours.

Prerequisite(s): Department approval: comparable skills.

PE-1120 Adapted Physical Education

01 Semester Credit

Individualized program for students with temporary or permanent physical limitations. Contact campus director of Physical Education for registration procedures.

Lecture 00 hours. Laboratory 02 hours.

Prerequisite(s): Departmental approval: must be registered with Access Office.

PE-1130 Archery

01 Semester Credit

Instruction and practice for skill development, safety procedures, equipment care and value as a lifetime activity.

Lecture 00 hours. Laboratory 02 hours. Prerequisite(s): None.

PE-1140 Bowling

01 Semester Credit

Instruction and participation in bowling fundamental skills course. Additional fee required.

Lecture 00 hours. Laboratory 02 hours. Prerequisite(s): None.

PE-1150 Golf for Beginners

01 Semester Credit

Instruction in and development of skills, fundamentals of swing and physical skills of the game. Additional fees required.

Lecture 00 hours. Laboratory 02 hours. Prerequisite(s): None.

Course Descriptions

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PE-1160 Golf for Players

01 Semester Credit

Advanced class in golf emphasizing playing game of golf and improving already learned skills. Most of class time scheduled off campus. Additional fees required.

Lecture 00 hours. Laboratory 02 hours.

Prerequisite(s): PE-1150 Golf for Beginners, or departmental approval: comparable skill.

PE-1170 Racquetball for Beginners

01 Semester Credit

Introduction to fundamentals of racquetball. Opportunities to participate and specialize. Rules, safety, and skills stressed.

Lecture 00 hours. Laboratory 02 hours. Prerequisite(s): None.

PE-1180 Racquetball for Players

01 Semester Credit

Provides advanced instruction and opportunities for students to increase level of skill while playing racquetball in competitively structured class.

Lecture 00 hours. Laboratory 02 hours.

Prerequisite(s): PE-1170 Racquetball for Beginners, or departmental approval: comparable skill.

PE-1190 Self-Defense I

01 Semester Credit

Instruction, practice and skill development in basic self-defense. Students gain appreciation of fitness and self-discipline.

Lecture 00 hours. Laboratory 02 hours. Prerequisite(s): None.

PE-1200 Self-Defense II

01 Semester Credit

Advanced participation and practice in understanding martial arts concept. Emphasis on practice and participation in Korean Tae-Kwon-Do.

Lecture 00 hours. Laboratory 02 hours.

Prerequisite(s): PE-1190 Self-Defense I, or departmental approval.

PE-1210 Self-Protection (Women)

01 Semester Credit

Individualized instruction in practical self-protection techniques with emphasis on using prevention skills to avoid physically threatening situations and/or personal attacks.

Lecture 00 hours. Laboratory 02 hours. Prerequisite(s): None.

PE-1220 Skiing

01 Semester Credit

Development of basic skiing techniques and safety practices and appreciation of skiing as lifetime activity. Extra fee required for off-site skiing.

Lecture 00 hours. Laboratory 02 hours. Prerequisite(s): None.

PE-1230 Tennis for Beginners

01 Semester Credit

Instruction, practice and skill development of tennis as lifetime activity. Scoring, rules and etiquette of tennis included.

Lecture 00 hours. Laboratory 02 hours. Prerequisite(s): None.

PE-1240 Tennis for Players

01 Semester Credit

Instruction, practice and skill development in tennis with emphasis on Singles and Doubles competition. Additional instruction and drills of beginners skills included.

Lecture 00 hours. Laboratory 02 hours.

Prerequisite(s): PE-1230 Tennis for Beginners, or departmental approval.

PE-1250 Track and Field

01 Semester Credit

Introduction to fundamentals of track and field events for men and women. Opportunities to participate and specialize in events.

Lecture 00 hours. Laboratory 02 hours. Prerequisite(s): None.

PE-1260 Basketball

01 Semester Credit

Introduction to fundamentals of basketball for men and women. Rules, safety, and basketball skills stressed.

Lecture 00 hours. Laboratory 02 hours. Prerequisite(s): None.

PE-1270 Softball

01 Semester Credit

Instruction and participation in softball for men and women. Basic softball skills, rules and game strategy stressed.

Lecture 00 hours. Laboratory 02 hours. Prerequisite(s): None.

PE-1280 Soccer

01 Semester Credit

Instruction and participation in soccer for men and women. Basic soccer skills, rules and game strategy stressed.

Lecture 00 hours. Laboratory 02 hours. Prerequisite(s): None.

PE-1290 Volleyball

01 Semester Credit

For men and women. Instruction and practice of volleyball skills including safety procedures, competitive experience, and appreciation of volleyball as lifetime activity.

Lecture 00 hours. Laboratory 02 hours. Prerequisite(s): None.

PE-1310 Shallow Water Exercises

01 Semester Credit

Shallow water exercises to improve aerobic fitness, muscle tone and flexibility.

Lecture 0 hours Laboratory 02 hours. Prerequisite(s): None.

PE-1320 Deep Water Exercise

01 Semester Credit

Cardiovascular exercises, muscle toning, strengthening, and flexibility in deep water.

Lecture 00 hours. Laboratory 02 hours.

Prerequisite(s): Departmental approval: comfort in deep water.

PE-1330 Swimming I

01 Semester Credit

Fundamental swimming skills for non-swimmers and shallow water swimmers including water adjustment, floating, breathing techniques, strokes, and water safety skills.

Lecture 00 hours. Laboratory 02 hours. Prerequisite(s): None.

Course Descriptions

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PE-1340 Swimming II

01 Semester Credit

Designed for individuals able to swim at least one length of pool using any stroke on front or back. Instruction in swimming strokes: front crawl, back crawl, elementary back stroke, side stroke and breast stroke; and endurance swimming, breathing techniques and deep water safety skills.

Lecture 00 hours. Laboratory 02 hours.

Prerequisite(s): PE-1330 Swimming I, or departmental approval: equivalent skill.

PE-1350 Swim Conditioning

01 Semester Credit

Designed for students completing Swimming II, or who have equivalent skill and are able to swim length of pool continuously.

Lecture 00 hours. Laboratory 02 hours.

Prerequisite(s): PE-1340 Swimming II, or departmental approval: comparable skill.

PE-1360 Skin and Scuba

02 Semester Credits

Instruction and participation in basic skills necessary for safe underwater diving. Additional fee required.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): PE-1340 Swimming II, or departmental approval: equivalent skills.

PE-1370 Cardio Kickboxing

01 Semester Credit

Instruction and practice in kickboxing/martial arts fitness based program. Emphasis on proper technique, safe kicks, punches, and combinations. Kickboxing movements performed to improve aerobic endurance, flexibility, balance, muscle strength and tone. Instruction and practice with kickboxing bags and gloves included.

Lecture 00 hours. Laboratory 02 hours. Prerequisite(s): None.

PE-1400 Whitewater Rafting

02 Semester Credits

Introduction to outdoor activities including instruction and participation in specific areas such as whitewater rafting, canoeing, or sailing. Includes lecture sessions in preparation for outdoor experience. Activity may include weekend and/or overnight participation. Additional laboratory fees vary according to activity. Check course schedule for specific information.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): Departmental approval.

PE-1410 Backpacking

02 Semester Credits

Introduction to outdoor activities, including instruction and participation in specific areas such as backpacking, hiking and orienteering. Includes lecture sessions in preparation for outdoor experience. Weekend and/or overnight participation required.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): Departmental approval: physical fitness test.

PE-1420 Family Camping

02 Semester Credits

Fundamental class in camping designed to develop basic knowledge and skills pertinent to safe and enjoyable family camping. Activity may include weekend and/or overnight participation. Additional laboratory fees vary according to activity. Check course schedule for specific information.

Lecture 01 hour. Laboratory 02 hours. Prerequisite(s): None.

PE-1430 Physical Relaxation Techniques

01 Semester Credit

Introduces student to basic physical techniques of relaxation including breathing, Jon Kabut-Zinn's body scan method, active and passive meditation. Includes awareness of body tension and stressors.

Lecture 00 hours. Laboratory 02 hours. Prerequisite(s): None.

PE-1440 Yoga

01 Semester Credits

Emphasis will be on various beginner and intermediate Hatha yoga practices, as a holistic experience, to benefit and bring balance between the body, mind, and spirit. Students will learn pranayama (breath control), asanas (postures), vinyasa (flow of asanas), dhyana (meditation), and mantras (chanting) in the various yoga practices. Introduction to basic philosophies of Hatha yoga included.

Lecture 00 hours. Laboratory 02 hours. Prerequisite(s): None.

PE-1500 Lifestyle Strategies for Health Promotion

02 Semester Credits

Health risk appraisals and their application to lifestyle behavior promotion. Instruction in strategies to promote healthy lifestyle behavior including stress management, smoking cessation and weight management.

Lecture 02 hours. Laboratory 00 hours. Prerequisite(s): None.

PE-1800 Special Topics in Physical Education

1-3 Semester Credits

PE-181S Special Laboratory Topics in Physical Education

1-3 Semester Credits

Specialized two-hour lab per credit.

PE-2000 Lifeguard Training

02 Semester Credits

Minimum skills training to qualify individuals as nonsurf lifeguard with certification from American Red Cross in Lifeguard, First Aid and CPR for the Professional Rescuer. Additional fees required.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): Departmental approval: Prerequisite swimming test defined by Red Cross.

PE-2010 Lifeguard Instructor

02 Semester Credits

Focuses on teaching skills contained in American Red Cross Lifeguarding, First Aid, CPR for the Professional Rescuer and Community Water Safety courses with American Red Cross certification as Lifeguard and CPR for Professional Rescuer Instructor. Additional fees required.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): Departmental approval: 17 years of age by end of class; demonstrate knowledge of lifeguarding and CPR skills.

Course Descriptions

Fall 2001 – Summer 2003 Catalog

PE-2020 Water Safety Instructor

02 Semester Credits

Instruction in teaching all skills and courses in American Red Cross Learn-To-Swim program, Infant and Pre-school classes, Community Water Safety and Longfellow's Whale Tales. Includes American Red Cross certification. Additional fees required.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): Departmental approval: 17 years of age by end of course.

PE-2070 Exercise Prescription for Medical Conditions and Special Populations

02 Semester Credits

Special focus and advanced study of individual exercise prescription for common medical conditions/special populations. Emphasis on exercise testing, training and monitoring of those exercise clients, identification of medical conditions, client safety, and special adaptations for the exercise programming.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): BIO-2330 Anatomy and Physiology I, and PE-1500 Lifestyle Strategies for Health Promotion; or departmental approval.

PE-2080 Correlations in Physical Fitness Technology

02 Semester Credits

Formal sessions and comprehensive review covering professional issues and strategies in personal training technology. Special focus on reviewing content of national certification exams, including the American College of Sports Medicine's Exercise Leader and the National Strength and Conditioning Association's Personal Trainer.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): PE-2070 Exercise Prescription for Medical Conditions and Special Populations, or departmental approval.

PE-2100 Personal Training

02 Semester Credits

Prepares students to pass typical national examination for certification as a personal trainer. Instruction will cover anatomy, physiology, biomechanics, strength and fitness theory, performance and weight management, exercise programming, and developing a client base.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): PE-1000 Personal Fitness, or departmental approval: based on comparable experience. (First Aid and CPR certificates are required by most personal training accrediting bodies.)

PE-2800 Special Advanced Topics in Physical Education

1-3 Semester Credits

PE-281S Special Advanced Laboratory Topics in Physical Education

1-3 Semester Credits

Specialized two-hour lab per credit.

Physical Science - PSCI

PSCI-1010 Astronomy

03 Semester Credits

Survey of astronomy which includes study of history of astronomy, planets, asteroids and comets, the sun, stars, galaxies, and cosmology. Contemporary issues and developments in astronomy and space science. Intended for non-science majors. To fulfill laboratory science requirements, students should enroll in related laboratory course.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

PSCI-101L Astronomy Laboratory

01 Semester Credit

Intended for non-science majors. Exercises on measurements, optics, telescopes, the sun, constellations, and other related astronomy topics. Laboratory activities complement and enrich related lecture course.

Lecture 00 hours. Laboratory 03 hours.

Prerequisite(s): PSCI-1010 Astronomy, or concurrent enrollment.

PSCI-1020 Chemistry

03 Semester Credits

Survey of chemistry as related to environment, health and nutrition, and application of chemical knowledge that affect quality of life. Basic concepts and applications of chemistry: consumer chemistry, periodicity, acids and bases, medicines and drugs, pollution and conservation. Intended for non-science majors. To fulfill laboratory science requirement, students should enroll in related laboratory course.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

PSCI-102L Chemistry Laboratory

01 Semester Credit

Intended for non-science majors. Exercises on measurements, separation and synthesis methods, reaction rates, water analysis, household chemistry, forensic and environmental issues, and other related chemistry topics. Laboratory activities complement and enrich related lecture course.

Lecture 00 hours. Laboratory 03 hours.

Prerequisite(s): PSCI-1020 Chemistry, or concurrent enrollment.

PSCI-1030 Earth

03 Semester Credits

Survey of geology of Earth and its impact on the environment. Earth's structure and composition, earthquakes, plate tectonics, hydrologic cycle, weather, resources and energy alternatives, and current related issues. Intended for non-science majors. To fulfill laboratory science requirements, students should enroll in related laboratory course.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

PSCI-103L Earth Laboratory

01 Semester Credit

Intended for non-science majors. Exercises on rocks and minerals, soils, weather, plate tectonics, energy and may include other related earth science activities. Laboratory activities complement and enrich related lecture course.

Lecture 00 hours. Laboratory 03 hours.

Prerequisite(s): PSCI-1030 Earth, or concurrent enrollment.

Course Descriptions

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PSCI-1800 Special Topics in Physical Science
1-3 Semester Credits

PSCI-181T Special Laboratory Topics in Physical Science
1-3 Semester Credits
Specialized three-hour lab per credit.

PSCI-1820 Independent Research in Physical Science
1-3 Semester Credits

PSCI-2800 Special Advanced Topics in Physical Science
1-3 Semester Credits

PSCI-281T Special Advanced Laboratory Topics in Physical Science
1-3 Semester Credits
Specialized three-hour lab per credit.

PSCI-2820 Independent Advanced Research in Physical Science
1-3 Semester Credits

Physical Therapist Assisting – PTAT

PTAT-1100 Introduction to Physical Therapist Assisting
02 Semester Credits
History and principles of physical therapy. Role of physical therapist assistant in relation to physical therapist. Survey of physical therapy treatment procedures. Legal and ethical responsibilities relating to health care service. Discussion of stress, its symptoms and behaviors as related to physical therapy.
Lecture 02 hours. Laboratory 00 hours.
Prerequisite(s): ENG-1010 College Composition I, and MA-1020 Medical Terminology I, and departmental approval: admission to program.

PTAT-1300 Functional Anatomy
04 Semester Credits
Study of anatomy and function of human body to include head, neck, shoulder girdle, trunk, and upper and lower extremities. Study of motion of human body as basic to application of exercise with emphasis on study of functional problems for analysis of body movement.
Lecture 03 hours. Laboratory 03 hours.
Prerequisite(s): BIO-1430 Anatomy and Physiology I, and departmental approval: admission to Physical Therapist Assisting Program or Occupational Therapy Program.

PTAT-1310 Fundamentals of Physical Therapy
03 Semester Credits
Fundamental procedures and theory for practice of physical therapy. Posture, movement, body mechanics, lifting and moving patients. Normal gait, joint movement and vital signs. Wheelchair measurement, maintenance and mobility.
Lecture 02 hours. Laboratory 03 hours.
Prerequisite(s): Concurrent enrollment in PTAT-1300 Functional Anatomy; BIO-1430 Anatomy and Physiology I; and departmental approval: admission to program.

PTAT-1400 Clinical Pathophysiology
03 Semester Credits
Introduction to medical conditions commonly encountered in practice of physical therapy that affect integumentary, cardiovascular, endocrine and musculoskeletal systems. Disease and injury and process of inflammation and repair of tissue.
Lecture 03 hours. Laboratory 00 hours.
Prerequisite(s): PTAT-1300 Functional Anatomy; and PTAT-1310 Fundamentals of Physical Therapy.

PTAT-1410 Physical Therapy Procedures
05 Semester Credits
Physical therapy procedures, emphasizing treatment utilizing physical agents. Use and application of modalities that emanate from electromagnetic and acoustic spectra.
Lecture 03 hours. Laboratory 04 hours.
Prerequisite(s): PTAT-1310 Fundamentals of Physical Therapy.

PTAT-1420 Therapeutic Exercise
03 Semester Credits
Physical therapy techniques and principles utilized in therapeutic exercise.
Lecture 02 hours. Laboratory 03 hours.
Prerequisite(s): PTAT-1300 Functional Anatomy, and PTAT-1310 Fundamentals of Physical Therapy.

PTAT-1800 Special Topics in Physical Therapy

1-3 Semester Credits

PTAT-1820 Independent Research in Physical Therapy

1-3 Semester Credits

PTAT-2300 Physical Therapy Rehabilitation Procedures

03 Semester Credits

Physical therapy techniques and procedures required for adult rehabilitation in selected disabilities.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): PTAT-1420 Therapeutic Exercise.

PTAT-2310 Pediatric Physical Therapy

02 Semester Credits

Special considerations of physical therapy approaches, role, and procedures regarding infants and children. Normal fetal and postnatal growth and development. Examination of wide range of disease and disabilities affecting infants and children, and physical therapy skills necessary for interaction and treatment of this patient population.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): BIO-1440 Anatomy & Physiology II, PTAT-1400 Clinical Pathophysiology, PTAT-1410 Physical Therapy Procedures, and PTAT-1420 Therapeutic Exercise.

PTAT-2320 Functional Anatomy of the Nervous System.

03 Semester Credits

Study of neuroanatomy and physiology and associated neurological conditions seen in physical therapy department.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): PTAT-1300 Functional Anatomy, and BIO-2340 Anatomy and Physiology II.

PTAT-2330 Geriatric Physical Therapy

02 Semester Credits

Special considerations of physical therapy approaches, role, and procedures regarding older adult population. Statistics, myths, and legislation regarding aging population. Normal aging and its effects and implications for treatment, wellness, and psychosocial implications.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): PTAT-2300 Physical Therapy Rehabilitation Procedures, PTAT-2310 Pediatric Physical Therapy, and PTAT-2320 Functional Anatomy of the Nervous System.

PTAT-2340 Psychosocial Issues in Physical Therapy

01 Semester Credit

Psychosocial issues for physical therapy including diagnosis and treatment of common mental illnesses, abuse, and therapeutic use of self.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): PTAT-2300 Physical Therapy Rehabilitation Procedures.

PTAT-2800 Special Advanced Topics in Physical Therapy

1-3 Semester Credits

PTAT-2820 Independent Advanced Research in Physical Therapy

1-3 Semester Credits

PTAT-2940 Field Experience I

01 Semester Credit

Application of learned physical therapy techniques in clinical setting.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Field experience: 180 hours per semester.

Prerequisite(s): PTAT-1420 Therapeutic Exercise, and PTAT-1410 Physical Therapy Procedures.

PTAT-2950 Field Experience II

03 Semester Credits

Capstone course in Physical Therapist Assisting Technology. Application of learned physical therapy techniques in clinical setting.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Field experience: 36 hours per week.

Prerequisite(s): PTAT-2300 Physical Therapy Rehabilitation Procedures, and PTAT-2940 Field Experience I.

Physician Assistant - PA

PA-1300 History and Physical Exam Techniques I

02 Semester Credits

Instruction and practice in fundamental skills required for effective patient-practitioner communication and development of therapeutic interpersonal relations. Introduction to lifelong learning skills and cultural diversity effects on all aspects of medical practice. Includes discussion of basic counseling theory and techniques, obtaining and recording a complete medical history, and introduction to study and practice of skills required to perform physical exam.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): Departmental approval, or admission to Physician Assistant or Surgical Physician Assistant program.

PA-1310 History and Physical Exam Techniques II

02 Semester Credits

Instruction, study and practice of skills required to perform physical examination, including recognition of normal and abnormal results. Includes instruction and practice for refinement of skills related to medical history and medical record-keeping, and how different cultures view and treat abnormalities as related to physical findings and disease process.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): PA-1300 History and Physical Exam Techniques I, or departmental approval.

PA-1400 Clinical Pharmacology

03 Semester Credits

Review of modern drug therapy including issues related to drug classification and discussion of key concepts involved in use of pharmacological agents for treatment of disease and other specific medical disorders. Presentations on proper selection and administration of drugs, pharmacodynamics, and desirable and adverse effects of drugs. Legal and regulatory aspects of drug therapy, prescription writing, and role of Physician Assistant and Surgical Physician Assistant in pharmacotherapeutics discussed.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval, or admission to the Physician Assistant or Surgical Physician Assistant program.

PA-1450 The Physician Assistant Profession and Health Care Issues

02 Semester Credits

Introduction to Physician Assistant profession, health care system, patient education, and issues encountered in primary-care and surgical practice settings. Includes discussion of health maintenance and disease prevention measures; psychiatric/social problems and their management; use of community resources; cultural diversity; home health, inner city, and rural health care; and current issues in health care.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval, or admission to the Physician Assistant or Surgical Physician Assistant program.

PA-1500 Clinical Medicine I

01 Semester Credit

Presentation of medical problems and diseases encountered in primary care practice. Etiology, signs, symptoms, diagnostic data interpretation, clinical course, methods of management, and potential complications discussed. Differential diagnosis of related and similar diseases and geriatrics included.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): Departmental approval, or admission to the Physician Assistant or Surgical Physician Assistant program.

PA-1510 Clinical Medicine II

04 Semester Credits

Presentation of medical problems and diseases encountered in primary care practice. Emphasis on cardiovascular disorders, endocrine abnormalities, gastrointestinal disorders and other related or similar diseases. Etiology, signs, symptoms, diagnostic data interpretation, clinical course, methods of management, and potential complications discussed. Differential diagnosis of related and similar diseases included.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): PA-1500 Clinical Medicine I, or departmental approval.

PA-1520 Clinical Medicine III

02 Semester Credits

Presentation of medical problems and diseases encountered in primary care practice, emphasizing obstetrics, gynecology, and pediatrics. Etiology, signs, symptoms, diagnostic data interpretation, clinical course, methods of management, and potential complications provide framework for lecture and discussion. Differential diagnosis of related and similar diseases included.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): PA-1510 Clinical Medicine II, or departmental approval.

PA-2300 Primary Care Patient Management

01 Semester Credit

Capstone course in Physician Assistant. Instruction in primary care patient management. Includes selection and interpretation of diagnostic and therapeutic procedures, correlation of medical history and physical examination data, and integration of diagnostic skills through simulated case studies and problem-solving activities.

Lecture 00 hours. Laboratory 03 hours.

Prerequisite(s): PA-1510 Clinical Medicine II, or departmental approval.

PA-2550 Clinical Decision Making

01 Semester Credit

To encourage and enhance critical thinking and problem solving skills. Apply problem solving skills by participating in case presentations and role playing. Pharmacology review of major drug classifications. Focus on proper selection and administration of drugs, with review of desirable and adverse side effects.

Lecture 00 hours. Laboratory 03 hours.

Prerequisite(s): PA-1510 Clinical Medicine II, or departmental approval.

PA-2600 Clinical Medicine Review

03 Semester Credits

In a problem based learning (PBL) format, review and overview of clinical manifestations and pathophysiology of common diseases affecting patients in primary care setting. When given diagnostic findings, students develop a patient management plan and describe the patient education relating to disease or condition presented.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): PA-1510 Clinical Medicine II, or departmental approval.

PA-2820 Independent Advanced Research in Physician Assistant

1-3 Semester Credits

PA-2941 Field Experience I

02 Semester Credits

Supervised field experience in clinical health care settings designed to emphasize role of Physician Assistant to primary care physician. Students assigned to clinical rotations, and under direct supervision of medical personnel gain exposure to professional practice. Students expected to demonstrate beginning assessment skills and assume more individual responsibility as member of medical team as clinical rotations continue. Rotations in surgery and emergency room may be included.

Lecture 00 hours. Laboratory 00 hours. Other Required Hours: Field Experience: 360 hours per semester.

Prerequisite(s): PA-2300 Primary Care Patient Management, or departmental approval; and concurrent enrollment in PA-2971 Field Experience Seminar I.

PA-2946 Field Experience II

02 Semester Credits

Supervised field experience in clinical health care settings designed to emphasize role of Physician Assistant to primary care physician. Students assigned to clinical rotations, and under direct supervision of medical personnel gain exposure to professional practice. Students expected to demonstrate advancing assessment skills and assume more individual responsibility as member of medical team as clinical rotations continue. Rotations in surgery and emergency room may be included.

Lecture 00 hours. Laboratory 00 hours. Other Required Hours: Field experience: 360 hours per semester.

Prerequisite(s): PA-2941 Field Experience I or concurrent enrollment, or departmental approval; and concurrent enrollment in PA-2976 Field Experience Seminar II.

PA-2951 Field Experience III

02 Semester Credits

Supervised field experience in clinical health care settings designed to emphasize role of Physician Assistant to primary care physician. Students assigned to clinical rotations and under direct supervision of medical personnel gain exposure to professional practice. Students expected to demonstrate intermediate to advanced assessment skills, assuming more responsibility with less direct supervision from medical personnel. Rotations in surgery and emergency room may be included.

Lecture 00 hours. Laboratory 00 hours. Other Required Hours: Field experience: 360 hours per semester.

Prerequisite(s): PA-2946 Field Experience II, or departmental approval; and concurrent enrollment in PA-2981 Field Experience Seminar III.

PA-2956 Field Experience IV

02 Semester Credits

Supervised field experience in clinical health care settings designed to emphasize role of Physician Assistant to primary care physician. Students assigned to clinical rotations and under direct supervision of medical personnel gain exposure to professional practice. Students expected to perform in expanded, competent and professional role, assuming more responsibility with less direct supervision from medical personnel. Rotations in surgery and emergency room may be included.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Field experience: 360 hours per semester.

Prerequisite(s): PA-2951 Field Experience III or concurrent enrollment, or departmental approval; and concurrent enrollment in PA-2986 Field Experience Seminar IV.

PA-2971 Field Experience Seminar I

01 Semester Credit

Integrates concepts and knowledge gained from field experience rotations into total learning process. Focus on patient and professional communication, and lifelong learning. Other discussions on current issues included.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Seminar: 15 hours per semester.

Prerequisite(s): Concurrent enrollment in PA-2941 Field Experience I.

PA-2976 Field Experience Seminar II

01 Semester Credit

Integrates concepts and knowledge gained from field experience rotations into total learning process. Focus on organization of health care delivery system. Other discussions on current issues included.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Seminar: 15 hours per semester.

Prerequisite(s): Concurrent enrollment in PA-2946 Field Experience II.

PA-2981 Field Experience Seminar III

01 Semester Credit

Integrates concepts and knowledge gained from field experience rotations into total learning process. Focus on professional associations, and political/legislative issues. Other discussions on current issues included.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Seminar: 15 hours per semester.

Prerequisite(s): Concurrent enrollment in PA-2951 Field Experience III.

PA-2986 Field Experience Seminar IV

01 Semester Credit

Capstone course in Physician Assistant. Integrates concepts and knowledge gained from field experience rotations into total learning process. Focus on job searching skills. Other discussions on current issues included.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Seminar: 15 hours per semester.

Prerequisite(s): Concurrent enrollment in PA-2956 Field Experience IV.

Physics - PHYS

PHYS-1050 Everyday Physics

02 Semester Credits

Explores application of various fields of physics to everyday living. Household applications, sports applications and other applications discussed. Some modern physics topics introduced.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): ENG-1010 College Composition I, or ENG-101H Honors; and MATH-0960 Beginning Algebra II, or MATH-0980 Intensified Beginning Algebra.

PHYS-1070 Physical Concepts in Diagnostic Sonography

02 Semester Credits

Introduction to basic physical concepts and mathematics as they relate to sonography. Static fluids, fluid flow dynamics, definition of waves, wave propagation, and their interaction with media, the doppler effect, basic electricity and electronics, thermodynamics, and their relation to diagnostic ultrasound are all reviewed with an emphasis on practical application and in-class demonstrations.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): MATH-1141 Applied Algebra and Mathematical Reasoning or concurrent enrollment.

PHYS-1210 College Physics I

04 Semester Credits

Kinematics, vectors, and Newtonian mechanics (forces and motion, gravitation, energy, momentum, rotational motion, simple harmonic motion), fluids, heat, and thermodynamics. Emphasis on problem solving using algebra.

Lecture 03 hours. Laboratory 03 hours.

Prerequisite(s): MATH-1160 Technical Mathematics I; or MATH-1200 Intermediate Algebra; or departmental approval.

PHYS-1220 College Physics II

04 Semester Credits

Electricity, magnetism, waves, sound, light, special relativity, atomic and nuclear physics.

Lecture 03 hours. Laboratory 03 hours.

Prerequisite(s): PHYS-1210 College Physics I.

PHYS-1300 Physics of Optical Materials

04 Semester Credits

Study of basic structure and properties of materials related to opticianry. Includes structure, density, conductivity, and effects of mechanical forces on materials. Special emphasis given to nature and theory of light and application to ophthalmic optics. Demonstrations by use of optical bench, blackboard optics, and other instruments used to facilitate understanding of how light functions.

Lecture 03 hours. Laboratory 03 hours.

Prerequisite(s): MATH-1060 Survey of Mathematics.

PHYS-1500 Nuclear Medicine Physics

03 Semester Credits

Physics principles and relationship of radioactivity/radiation with the physical world. Topics include applicable classical physics concepts, atomic structure, mass-energy relationships, types of radiation, quantum theory, modes and principles of radioactive decay, applicable terminology, and interactions of radiation with matter.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval or admission to the program.

PHYS-1800 Special Topics in Physics

1-3 Semester Credits

PHYS-2250 Radiographic Physics and Quality Control

04 Semester Credits

Study of x-ray circuitry, x-ray generators, mobile radiographic equipment, radiographic quality control, and use of automatic exposure devices. Includes laboratory application of quality assurance testing tools.

Lecture 03 hours. Laboratory 02 hours.

Prerequisite(s): PHYS-1100 Physics of Ultrasound, or RADT-1350 Radiographic Technique, and departmental approval: admission to Radiography or Diagnostic Medical Sonography programs.

PHYS-2310 General Physics I

05 Semester Credits

Physics for students majoring in science or engineering. Kinematics and dynamics in one, two, and three dimensions. Conservation laws (energy, momentum, angular momentum); gravitation; simple harmonic motion; heat and thermodynamics. Emphasis on problem solving using algebra and calculus.

Lecture 04 hours. Laboratory 03 hours.

Prerequisite(s): MATH-1610 Calculus I, or departmental approval.

PHYS-2320 General Physics II

05 Semester Credits

Second semester course for students majoring in science or engineering. Electricity and magnetism; light and optics; waves in elastic media; sound.

Lecture 04 hours. Laboratory 03 hours.

Prerequisite(s): PHYS-2310 General Physics I, and MATH-1620 Calculus II; or departmental approval.

PHYS-2400 Modern Physics

03 Semester Credits

Twentieth-century physics: special relativity, the quantum nature of light, matter waves, the uncertainty principle, hydrogen and hydrogen-like atoms, electron spin, the nucleus.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): PHYS-2320, General Physics II, or departmental approval.

PHYS-2800 Special Advanced Topics in Physics

1-3 Semester Credits

PHYS-2820 Independent Research in Physics

1-3 Semester Credits

Plant Science and Landscape Technology – PST

PST-1300 Horticultural Botany

03 Semester Credits

[This course is crosslisted as BIO-1300. Credit can only be earned once for either course.]

Plant terminology, taxonomy, histology, anatomy, morphology, and physiology examined. Emphasis on horticultural practices, plant growth principles, and cultural requirements for plant growth.

Lecture 02 hours. Laboratory 03 hours. Prerequisite(s): None.

PST-1310 Landscape Plants I

03 Semester Credits

Techniques for correct identification, cultural needs and landscape uses of deciduous trees and shrubs and needle leaf evergreens in landscape.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): PST-1300 (or BIO-1300) Horticultural Botany or concurrent enrollment; or departmental approval: equivalent or work related experience.

PST-1320 Landscape Plants II

03 Semester Credits

Identification, cultural requirements, and growth habits of evergreens, ground covers, annuals, perennials, and hardy bulbs. Includes plant selection, soil needs, and perennial garden layout.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): PST-1300 (or BIO-1300) Horticultural Botany; or PST-1310 Landscape Plants I; or departmental approval: equivalent or work related experience.

PST-1350 Plant Production

02 Semester Credits

Examination of sexual/asexual propagation of plant material. Emphasis on basic greenhouse and nursery operations from harvesting to selling.

Lecture 01 hour. Laboratory 03 hours. Prerequisite(s): None.

PST-1410 Equipment Operations and Maintenance

03 Semester Credits

Review of and practical experience operating common horticultural hand tools, power tools, and large equipment. Safety and maintenance emphasized.

Lecture 02 hours. Laboratory 03 hours. Prerequisite(s): None.

PST-1420 Landscape Practices

03 Semester Credits

Study of and practical experience in proper techniques of landscape installation and maintenance. Specifications of American Nursery Association standards emphasized. Diagnosis and resolution of plant problems considered.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): PST-1410 Equipment Operations and Maintenance; or departmental approval: equivalent or work related experience.

PST-1800 Special Topics in Plant Science and Landscape Technology

1-3 Semester Credits

PST-181T Special Laboratory Topics in Plant Science and Landscape Technology

1-3 Semester Credits

Specialized three-hour lab per credit.

PST-1820 Independent Study in Plant Science and Landscape

1-3 Semester Credits

PST-2300 Interior Foliage Identification and Culture

02 Semester Credits

Identification, culture, and uses of tropical and other interior plants in the interior plantscape, workplace, and home.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): Departmental approval.

PST-2310 Soil Technology

03 Semester Credits

Exposure to various types of soils including factors which affect them. Soil testing and judging extensions of basic topics.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): PSCI-1020 Chemistry; or CHEM-1010

Introduction to Inorganic Chemistry.

PST-2330 Entomology

03 Semester Credits

Identification, classification, life cycles and body structures of insect pests of landscape, greenhouse, nursery, foliage, and turf with emphasis on integrated pest management.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): Departmental approval.

PST-2340 Plant Pathology

03 Semester Credits

Survey of common pathological conditions which commonly affect plants. Emphasis placed on disease identification and safe control methods.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): PST-1300 (or BIO-1300) Horticultural Botany, or departmental approval: equivalent or work related experience.

PST-2350 Landscape Contracting

03 Semester Credits

Capstone course in Plant Science and Landscape Technology. Provides an operational knowledge of reading and implementing blueprints with emphasis on installation of plant materials, wood, contracting, and stone hardscape features. Includes local and state zoning laws and regulations.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): Eligibility for MATH-1060 Survey of Mathematics.

PST-2360 Landscape Design

03 Semester Credits

Basic landscape design theories including site conditions and customer needs. Includes techniques to move from preliminary sketch to final design.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): Departmental approval.

Course Descriptions

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PST-2370 Introduction to Turfgrass

02 Semester Credits

In-depth study of commercial lawn maintenance and installation including fertilization, spraying, mowing, irrigation, selection and establishment, weed and pest identification, and diagnosis of disorders as pertains to commercial, residential, and municipal applications.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): PST-1300 (or BIO-1300) Horticultural Botany, or departmental approval: equivalent or work related experience.

PST-2380 Arboriculture

02 Semester Credits

Detailed study of commercial tree care including fertilization, spraying, pruning, cabling, equipment operation and diagnosis of disorders as pertains to commercial arboriculture, urban forestry, and others.

Lecture 01 hour. Laboratory 03 hours. Prerequisite(s): None.

PST-2410 Garden Center Operations I

03 Semester Credits

Introduction to business practices specific to retail garden center operation including plant and other merchandise displays, customer service and store layout.

Lecture 03 hours. Laboratory 00 hours.

Other Required Hours: 00.

Prerequisite(s): BADM-1020 Introduction to Business.

PST-2420 Garden Center Operations II

03 Semester Credits

Capstone course in Garden Center Operations.

Continuation of business practices specific to retail garden center operation including selection of nursery stock, irrigation systems, employee relations, specialized gardening techniques and supplies.

Lecture 03 hours. Laboratory 00 hours.

Other Required Hours: 00.

Prerequisite(s): PST-2410 Garden Center Operations I, BADM-1300 Small Business Management, and MARK-2010 Principles of Marketing.

PST-2800 Special Advanced Topics in Plant Science and Landscape

1-3 Semester Credits

PST-281T Special Advanced Laboratory Topics in Plant Science and Landscape

1-3 Semester Credits

Specialized three-hour lab per credit.

PST-2950 Field Experience

03 Semester Credits

Field experience in student's occupational objectives in plant science, landscaping and/or horticulture. Student and employer follow training agreement as developed by student, employer and supervising faculty.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: 36 hours per week.

Prerequisite(s): Departmental approval: satisfactory completion of coursework deemed sufficient to prepare the student for entry level work in chosen work area.

Political Science - POL

POL-1010 American National Government

03 Semester Credits

Nature, purpose, theories and forms of government of United States at national level. Relationships between structure, function and process. Dynamics of political change, including role and significance of U.S. Constitution. Current issues of American public policy.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

POL-1020 State and Local Government

03 Semester Credits

Examination of state and local governments within federal system, intergovernmental relations, metropolitan problems, dynamics of electoral process, including impacts of public policy decisions on individual lives. Several policy areas may be studied.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

POL-1030 Comparative Government

03 Semester Credits

Examination of selected developed and developing nations throughout the world. Contrast between democratic, authoritarian, and totalitarian political systems.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

POL-1070 International Relations and World Politics

03 Semester Credits

Study of modern international relations and forces that confront policy makers. Special emphasis on current issues.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

POL-1100 Introduction to Constitutional Law

03 Semester Credits

Origins and development of American constitutional and legal system. Emphasizes role of Supreme Court in policy making and major decisions concerning important areas of litigation.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

POL-1800 Special Topics in Political Science

1-3 Semester Credits

POL-1820 Independent Research in Political Science

1-3 Semester Credits

POL-2060 Political Systems of Africa

03 Semester Credits

Comparative discussion of selected topics in Africa with particular focus on interrelationship between internal and external affairs. Examination of colonial policies, party systems, interest groups and modes of development.

Lecture 03 hours Laboratory 00 hours.

Prerequisite(s): POL-1010 American National Government is recommended.

POL-2800 Special Advanced Topics in Political Science

1-3 Semester Credits

POL-2820 Independent Advanced Research in Political Science

1-3 Semester Credits

Course Descriptions

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Practical Nursing – PNUR

PNUR-1310 Fundamentals of Nursing

04 Semester Credits

Introduction to fundamentals of nursing care with emphasis on basic daily needs of patient utilizing nursing process. Nursing knowledge and skills necessary for safe and accurate delivery of nursing care stressed. Basic communication and mental health concepts within cultural context introduced.

Lecture 02 hours.

Laboratory: On-campus and Clinical: 06 hours.

Prerequisite(s): Departmental approval: admission to Practical Nursing Program; BIO-1100 Introduction to Biological Chemistry or concurrent enrollment; ENG-1010 College Composition I, or concurrent enrollment; MATH-1141 Applied Algebra and Mathematical Reasoning or concurrent enrollment.

PNUR-1320 Nursing Management of Adults I

04 Semester Credits

Use nursing process and scientific principles in providing care for patients with various health problems, body's response to illness and stress, and its adaptations. Identifies common nursing interventions to meet basic needs of adult patient.

Lecture 02 hours.

Laboratory: On-campus and Clinical: 06 hours.

Prerequisite(s): PNUR-1310 Fundamentals of Nursing, or concurrent enrollment; BIO-1100 Introduction to Biological Chemistry, or concurrent enrollment; ENG-1010 College Composition I, or concurrent enrollment; and MATH-1141 Applied Algebra and Mathematical Reasoning, or concurrent enrollment.

PNUR-1330 Nursing Management of Adults II

08 Semester Credits

Focuses on care of adults with acute and recurring medical and surgical conditions. Students develop skills in problem-solving through use of nursing process as applied to individual situations, with goal of providing safe, competent, and standard nursing interventions to individual adult patient.

Lecture 04 hours.

Laboratory: On-campus and Clinical: 12 hours.

Prerequisite(s): PNUR-1320 Nursing Management of Adults I; NURS-1300 Health Assessment, or concurrent enrollment; BIO-2330 Anatomy and Physiology I, or concurrent enrollment; and PSY-1010 General Psychology, or concurrent enrollment.

PNUR-1340 Nursing Care of Families

04 Semester Credits

Designed to present basic concepts relating to human reproduction and childbearing cycle. Emphasis on nursing responsibility in assessment of normal and abnormal occurrences. Childbearing experience, nursing skills, and measures related primarily to ill newborn, children and adolescents considered in relation to entire family. Emotional and physical aspects incorporated.

Lecture 02 hours.

Laboratory: On-campus and Clinical: 06 hours.

Prerequisite(s): PNUR-1330 Nursing Management of Adults II; and PSY-2020 Life Span Development, or concurrent enrollment.

Psychology – PSY

PSY-1010 General Psychology

03 Semester Credits

Scientific study of human behavior. Topics include history of psychology, scientific methods, biological processes, sensation and perception, consciousness, learning, intelligence, human development, motivation and emotion, personality, abnormal behavior, social psychology and diversity.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

PSY-101H Honors General Psychology

03 Semester Credits

Examination of historical and conceptual foundations of modern psychology, its methodology and enduring issues within subdisciplines. Research basis of psychology and discussion of original source materials emphasized.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I, and psychology departmental approval.

PSY-2010 Child Growth and Development

03 Semester Credits

Study of human growth and development from conception through puberty. Emphasis on biological, cognitive, social and emotional development. Physiological and psychological processes examined. Major developmental issues examined from diverse perspectives.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): PSY-1010 General Psychology, or PSY-101H Honors.

PSY-2020 Life Span Development

04 Semester Credits

Study of human growth and development throughout life span. Emphasis on biological, cognitive, social and emotional development. Major issues examined from diverse perspectives.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): PSY-1010 General Psychology, or PSY-101H Honors.

PSY-2030 Educational Psychology

03 Semester Credits

Survey of psychological factors involving learning. Educative process examined, including educational objectives, instructional variables, learning processes, measurement and evaluation. Student, teacher and social variables affecting educational outcomes considered.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): PSY-1010 General Psychology, or PSY-101H Honors General Psychology.

PSY-2040 Social Psychology

03 Semester Credits

Social influence on individual's ideas and behaviors; emphasis on issues such as attraction, prejudice, conformity and interpersonal communication.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): PSY-1010 General Psychology, or PSY-101H Honors General Psychology.

Course Descriptions

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PSY-2050 Psychology of Personality

03 Semester Credits

Scientific study of personality, including motivation and development. Normal and abnormal personality considered along with its clinical applications and relevance to business and industry.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): PSY-1010 General Psychology, or PSY-101H Honors General Psychology.

PSY-2060 Adolescent Psychology

03 Semester Credits

Examines human development from puberty to young adulthood from variety of perspectives. Variations in development related to gender, social and cultural factors considered. Topics include physical and sexual maturation; identity and self-image; family and peer relations; social, emotional and moral behavior; cognition and academic performance; work and leisure behavior; and transition to independence.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): PSY-1010 General Psychology, or PSY-101H Honors General Psychology.

PSY-2070 Behavior Modification

03 Semester Credits

Basic conditioning and learning principles emphasizing primary, social and token reinforcement. Applications to normal and abnormal behavior and uses in home, school, work, hospital and correctional settings. Implications and ethics of behavioral control examined.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): PSY-1010 General Psychology, or PSY-101H Honors General Psychology.

PSY-2080 Abnormal Psychology

03 Semester Credits

Descriptive survey of behavioral and psychological disorders. Topics include past and present views of abnormal behavior; diagnostic and assessment procedures; classification; and causes, prevention and remediation of disorders.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): PSY-1010 General Psychology, or PSY-101H Honors General Psychology.

PSY-2100 Introduction to Aging

03 Semester Credits

Overview of psychological aspects of maturation. Consideration of biological, emotional, perceptual, cognitive and psychosocial conditions encountered in young, middle-aged and senior adults.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): PSY-1010 General Psychology, or PSY-101H Honors General Psychology.

PSY-2800 Special Advanced Topics in Psychology

1-3 Semester Credits

PSY-2820 Independent Advanced Research in Psychology

1-3 Semester Credits

Radiography - RADT

RADT-1300 Fundamentals of Radiography

04 Semester Credits

Basic study of ionizing radiation relative to its nature, production, interaction with matter and effect on Radiographic Quality; includes fundamentals of radiation protection and film processing.

Lecture 03 hours. Laboratory 02 hours.

Prerequisite(s): Departmental approval: admission to program.

RADT-1350 Radiographic Technique

03 Semester Credits

Analysis and application of radiographic factors influencing recording and visibility of radiographic image. Students required to conduct x-ray exposure experiments, under supervision, using energized equipment.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): RADT-1300 Fundamentals of Radiography, or departmental approval.

RADT-1400 Radiographic Positioning

03 Semester Credits

Introduction to and application of basic nursing skills required for direct patient care, fundamentals of radiographic positioning for upper and lower extremities, chest, pelvis, abdomen, gastrointestinal examinations and intravenous urograms, and use of contrast media. Additional hours required in practicing radiographic positioning under direct supervision of registered licensed radiographer.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): Departmental approval: admission to program.

RADT-1410 Intermediate Radiographic Positioning

03 Semester Credits

Essentials of radiographic procedures involving cerebral and facial cranium, vertebral column, thoracic cage, and specific projections of upper extremity articulations. Techniques and positioning variations for trauma, pediatric, geriatric and age specific patients. Communication skills for patient-focused care. Additional hours required for practicing radiographic positioning assignments under direct supervision of registered radiographer.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): RADT-1400 Radiographic Positioning, and departmental approval: admission to program.

RADT-1910 Clinical Radiography I

07 Semester Credits

Supervised sessions emphasizing practical application of radiographic positioning for routine diagnostic and mobile examinations; selection of appropriate radiographic exposures; methods of radiation protection; demonstration of skills related to departmental procedures fundamental to operation of Radiology department. Clinical experience in hospital environment for 16 weeks.

Lecture 01 hour. Laboratory 00 hours.

Other Required Hours: Directed practice: 36 hours per week.

Prerequisite(s): Departmental approval: admission to program.

RADT-191S Clinical Radiography I

05 Semester Credits

Supervised sessions provide the student with practical experience to apply basic positioning and patient care skills acquired in didactic studies. Selection of appropriate radiographic exposures and methods of radiation protection as they correlate to radiographic procedures. Clinical experience is gained through general diagnostic procedures, fluoroscopy, mobile radiography and emergency procedures using a competency based format in hospital environment for 10 weeks.

Lecture 01 hour. Laboratory 00 hours.

Other Required Hours: Directed practice: 36 hours per week.

Prerequisite(s): Departmental approval: admission to program.

RADT-2350 Radiographic Pathology

03 Semester Credits

Study of selected pathologic conditions of human body and radiographic appearance of those various diseases; adjustment of techniques due to pathologic changes.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): BIO-1221 Anatomy and Physiology for Diagnostic Medical Imaging, or departmental approval: admission to program.

RADT-2360 Special Imaging Procedures

02 Semester Credits

Introduction to specialized imaging procedures in diagnostic radiography to provide individuals with knowledge and skills to effectively contribute as member of specialized imaging teams.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): BIO-1221 Anatomy & Physiology for Diagnostic Medical Imaging; and concurrent enrollment in RADT-2350 Radiographic Pathology; and departmental approval: admission to program.

RADT-2400 Imaging Systems

03 Semester Credits

Presentation of imaging systems and imaging modalities. Topics include fluoroscopy, image intensification, video-tape recorders, conventional tomography, computerized tomography and magnetic resonance.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): RADT-1350 Radiographic Technique, or departmental approval: admission to program.

RADT-2510 Fundamentals of Mammography

04 Semester Credits

Introduction to mammography, historical development, patient education and assessment. Anatomy, physiology and pathology of the breast, including benign and malignant conditions, stages of breast cancer and treatment options. Basic and advanced positioning techniques including special cases such as the post surgical breast. Case studies and mammography film critique. Study of physics of mammography, instrumentation equipment and quality assurance emphasizing film processing quality control.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): RADT-2920 Clinical Radiography III, or RADT-292S Clinical Radiography III, or departmental approval: equivalent educational course experience.

RADT-251A Introduction to Mammography

01 Semester Credit

Introduction to mammography, historical development, patient education and assessment.

Lecture 01 hours. Laboratory 00 hours.

Prerequisite(s): RADT-2920 Clinical Radiography III, or RADT-292S Clinical Radiography III, or departmental approval: equivalent educational course experience.

RADT-251B Anatomy and Pathology of the Breast

01 Semester Credit

Anatomy, physiology and pathology of the breast, including benign and malignant conditions, stages of breast cancer and treatment options.

Lecture 01 hours. Laboratory 00 hours.

Prerequisite(s): RADT-2920 Clinical Radiography III, or RADT-292S Clinical Radiography III, or departmental approval: equivalent educational course experience.

RADT-251C Positioning Techniques for Breast Imaging

01 Semester Credit

Basic and advanced positioning techniques including special cases such as the post surgical breast. Case studies and mammography film critique.

Lecture 01 hours. Laboratory 00 hours.

Prerequisite(s): RADT-2920 Clinical Radiography III, or RADT-292S Clinical Radiography III, or departmental approval: equivalent educational course experience.

RADT-251D Physics of Mammography

01 Semester Credit

Study of physics of mammography, instrumentation equipment and quality assurance emphasizing film processing quality control.

Lecture 01 hours. Laboratory 00 hours.

Prerequisite(s): RADT-2920 Clinical Radiography III, or RADT-292S Clinical Radiography III, or departmental approval: equivalent educational course experience.

RADT-2520 Advanced Procedures in Mammography

04 Semester Credits

Study of sterile technique, infection control, interventional procedures and OSHA regulations. Ultrasound breast imaging, including anatomy on ultrasound images. Ultrasound physics and ultrasound imaged pathologies. Comprehensive Registry Review. Standards of care, legal issues, and MQSA guidelines for the Breast Center addressed. Accreditation process and preparation for FDA/MQSA inspection. Modular courses RADT-252A, RADT-252B, RADT-252C and RADT-252D together will also meet requirements for this course.

Lecture 04 hours. Laboratory 00 hours.

Prerequisite(s): RADT-2510 Fundamentals of Mammography; or RADT-251A, RADT-251B, RADT-251C and RADT-251D; or departmental approval.

RADT-252A Sterile Technique and Interventional Procedures

01 Semester Credit

Study of sterile technique, infection control, interventional procedures and OSHA regulations as applicable to the Breast Imaging Department.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): RADT-2510 Fundamentals of Mammography, or RADT-251A, RADT-251B, RADT-251C and RADT-251D; or departmental approval.

RADT-252B Ultrasound Breast Imaging & Registry Review

01 Semester Credit

Ultrasound breast imaging, including anatomy on ultrasound images. Ultrasound physics and ultrasound imaged pathologies. Comprehensive Registry Review.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): RADT-2510 Fundamentals of Mammography; or RADT-251A, RADT-251B, RADT-251C and RADT-251D; or departmental approval.

RADT-252C Legal Issues and MQSA Guidelines

01 Semester Credit

Standards of care, legal issues, and MQSA guidelines for the Breast Center will be addressed.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): RADT-2510 Fundamentals of Mammography, or RADT-251A, RADT-251B, RADT-251C and RADT-251D; or departmental approval.

RADT-252D Accreditation Process for Mammography

01 Semester Credit

Accreditation process and preparation for FDA/MQSA inspection, as it relates to Breast Imaging Center.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): RADT-2510 Fundamentals of Mammography, or RADT-251A, RADT-251B, RADT-251C and RADT-251D; or departmental approval.

RADT-2910 Clinical Radiography II

07 Semester Credits

Supervised sessions emphasizing practical application of radiographic positioning with emphasis on vertebra, cranium and articular system for pediatric, ambulatory and geriatric patients. Clinical experience in hospital environment for 16 weeks.

Lecture 01 hour. Laboratory 00 hours.

Other Required Hours: Directed practice: 36 hours per week.

Prerequisite(s): RADT-1910 Clinical Radiography I, and departmental approval: admission to program.

RADT-291S Clinical Radiography II

07 Semester Credits

Supervised sessions emphasizing development of medical imaging skills. Emphasis on cranium, vertebra, and articular system for patients including pediatric and geriatric populations. Experience gained through general diagnostic procedures, fluoroscopy, mobile radiography, emergency procedures and digital imaging using a competency based system. Clinical experience in hospital environment for 16 weeks.

Lecture 01 hour. Laboratory 00 hours.

Other Required Hours: Directed practice: 36 hours per week

Prerequisite(s): RADT-191S Clinical Radiography I, and departmental approval: admission to program.

RADT-2920 Clinical Radiography III

05 Semester Credits

Supervised sessions emphasizing practical application of radiographic positioning with clinical experience emphasis on selected radiographic procedures including fluoroscopy, special procedures, ER/trauma, surgery, and mobiles and general radiography. Includes use of specialized equipment. Clinical experience in hospital environment for 10 weeks.

Lecture 01 hour. Laboratory 00 hours.

Other Required Hours: Directed practice: 36 hours per week.

Prerequisite(s): RADT-2910 Clinical Radiography II, and departmental approval: admission to program.

RADT-292S Clinical Radiography III

07 Semester Credits

Supervised sessions provide development and practical application of radiographic positioning during general radiographic procedures, fluoroscopy, tomography, mobile imaging and emergency procedures. Rotations include surgery, cardiovascular and interventional radiography, and digital imaging. Adjunct area rotations include computed tomography, magnetic resonance imaging, diagnostic medical sonography, radiation oncology, and nuclear medicine. Includes use of specialized equipment. Clinical experience in hospital environment for 16 weeks.

Lecture 01 hour. Laboratory 00 hours.

Other Required Hours: Directed practice: 36 hours per week.

Prerequisite(s): RADT-291S Clinical Radiography II, and departmental approval: admission to program.

RADT-2930 Mammography Applications

03 Semester Credits

Supervised sessions emphasizing practical application of mammography patient preparation and positioning for diagnostic and screening examinations using appropriate exposures, radiation protection and demonstrating professional/ethical skills. Performance, evaluation and recording of quality control tests, as required by the American College of Radiology, will be documented. Clinical experience in mammography department of hospital environment for 16 weeks also includes interventional/special examinations.

Lecture 01 hour. Laboratory 00 hours.

Other Required Hours: Directed Practice: 16 hours per week.

Prerequisite(s): RADT-2510 Fundamentals of Mammography, or RADT-251A, RADT-251B, RADT-251C and RADT-251D; or departmental approval.

Course Descriptions

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Real Estate – REAL

REAL-1301 Principles and Practices of Real Estate

03 Semester Credits

Acquaints students with the real estate profession, covering wide range of subjects necessary to practice real estate. Topics include license law, ethics, agency, purchase agreements, escrow and title work, appraisals, finance, property management, construction, investment techniques and civil rights.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Concurrent enrollment in REAL-1501 Valuation of Residential Properties.

REAL-1320 Diversity Awareness and Fair Lending

02 Semester Credits

Explores impact of cultural differences in perceptions, attitudes, and behavior regarding decisions that lead to homeownership. Describes effective customer service principles and communication across cultures. Effective communication and world class customer service. Issues of discrimination in housing and solutions for housing programs.

Lecture 02 hours. Laboratory 00 hours. Prerequisite(s): None.

REAL-1330 Loan Origination

02 Semester Credits

Examines product knowledge and sales skills used by mortgage originators. Focuses on basic strategies involved in loan origination. Provides techniques necessary to increase loan volume and produce mortgages for sale on secondary market.

Lecture 02 hours. Laboratory 00 hours. Prerequisite(s): None.

REAL-1401 Real Estate Law

03 Semester Credits

Legal phase of real estate transactions. Documentation from listing to choosing paper thoroughly reviewed. Application extends from brokers to owner desiring to buy or sell own property. Review of listing, purchase agreement, mortgage, land contract, and settlement forms.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Concurrent enrollment in REAL-1601 Real Estate Finance.

REAL-1501 Valuation of Residential Properties

01 Semester Credit

Explores elements of appraisal that affect value. Highest and best use site analysis and construction stressed. Appraisal techniques explored, leading to evaluation of real property. Students write appraisal report.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): Concurrent enrollment in REAL-1301 Principles and Practices of Real Estate.

REAL-1601 Real Estate Finance

01 Semester Credit

Procedures and techniques requisite to analysis of risk in financing of real estate. Conventional lending explored along with creative lending. Sources of funds and qualification requirements become known with application process.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): Concurrent enrollment in REAL-1401 Real Estate Law.

REAL-1800 Special Topics in Real Estate

1-3 Semester Credits

REAL-2300 Real Estate Brokerage

02 Semester Credits

Studies factors necessary for establishment and efficient operation of a sales and brokerage office. Salesperson-broker relationship, listing procedure, purchase offer writing and loans stressed. In-depth study of legal constraints in starting brokerage business.

Lecture 02 hours. Laboratory 00 hours. Prerequisite(s): None.

REAL-2310 Loan Processing

02 Semester Credits

Review loan processing functions including assembling loan files, ordering verifications, appraisals, credit reports, disclosure statements and other documents. Explore roles of various parties in processing phase.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): REAL-1301 Principles and Practices of Real Estate, and REAL-1330 Loan Origination.

REAL-2320 Affordable Housing

02 Semester Credits

Specific tools and techniques which help facilitate home ownership in traditionally under-served households. Review role of financial institutions, funding sources, types of mortgages and property management.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): REAL-1301 Principles and Practices of Real Estate, REAL-1320 Diversity Awareness and Fair Lending, and REAL-1330 Loan Origination.

REAL-2330 Loan Underwriting

02 Semester Credits

Role of underwriter, workings of secondary mortgage market and Fannie Mae, and basic eligibility requirements.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): REAL-1301 Principles and Practices of Real Estate, REAL-1320 Diversity Awareness and Fair Lending, and REAL-1330 Loan Origination.

REAL-2340 Mortgage Loan Servicing

02 Semester Credits

Review tasks completed after loan has been closed: collecting payments; ensuring that real estate, insurance and other property related items are paid; and evaluating borrower requests for changes in existing loan contract.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): REAL-2310 Loan Processing.

REAL-2350 Homebuyers Education and Counseling

02 Semester Credits

Review skills and techniques needed for loan origination and counseling. Examine role of counseling in home buying process and how to assist individuals and families. Government home ownership programs, especially Fannie Mae and HUD.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): REAL-2320 Affordable Housing or concurrent enrollment.

Course Descriptions

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REAL-2400 Real Estate Sales

02 Semester Credits

Current sales techniques studied. Stress of all sales contacts and disclosures blending with legal ramifications makes course most relevant. Particular emphasis on motivation and site location.

Lecture 02 hours. Laboratory 00 hours. Prerequisite(s): None.

REAL-2500 Commercial and Industrial Real Estate

02 Semester Credits

Capstone course in Real Estate. Covers all aspects of ownership and operation of commercial and industrial properties including site location, purchase, sale, management, leasing, taxes, financing, and construction methods.

Lecture 02 hours. Laboratory 00 hours. Prerequisite(s): None.

REAL-2600 Real Estate Management

02 Semester Credits

Basic management of properties embracing areas of leasing, maintenance, budgeting, creative market analysis, public relations, collections, office procedures, zoning and development. Special emphasis placed on legal aspects of real estate management company.

Lecture 02 hours. Laboratory 00 hours. Prerequisite(s): None.

REAL-2700 Valuation of Income Properties

02 Semester Credits

Demonstrates value of income properties through three approaches to appraisal, and other factors which influence value. Highlights preparation of appraisal report utilizing cost and income approach with specific emphasis on construction, taxes, statement analysis, and site location.

Lecture 02 hours. Laboratory 00 hours. Prerequisite(s): None.

REAL-2800 Special Advanced Topics in Real Estate

1-3 Semester Credits

REAL-281S Special Advanced Laboratory Topics in Real Estate

1-3 Semester Credits

Specialized two-hour lab per credit.

REAL-2820 Independent Advanced Study in Real Estate

1-3 Semester Credits

REAL-2940 Mortgage Finance Field Experience

1-2 Semester Credits

Capstone course in Mortgage Finance. Limited to students in the Mortgage Finance degree program. Employment in an approved training facility under College supervision.

Requirement for one credit is 12 clock hours per week of approved work. Students may earn up to two credits in one semester. May be repeated for an accrued maximum of eight credits.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Field Experience: 12 hours per week per credit hour.

Prerequisite(s): REAL-2320 Affordable Housing, REAL-2330 Loan Underwriting, and department approval: admission to Mortgage Finance program

Recording Arts and Technology – RAT

RAT-1160 Making Independent Recordings

03 Semester Credits

Basic guide to making and selling independent recordings. Topics include operation of record companies, recording procedures, planning, budgets, copyrights, publishing, graphics and printing, manufacturing process, promotion and sales strategies, and setting up your own small business.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

RAT-1300 Introduction To Recording

03 Semester Credits

Introduction to theory of sound and the recording process. Study of audio terminology, principles of sound and hearing, basic equipment, recorder operation, analog and digital signal storage methods.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Department approval.

RAT-1310 Studio Operations

04 Semester Credits

Theory and practical applications of the recording studio. Topics include equipment setup and interface, small console signal flow and operating levels, patch bays, studio documentation, basic voice and commercial recording, editing and mixing techniques.

Lecture 01 hour. Laboratory 06 hours.

Prerequisite(s): RAT-1300 Introduction To Recording or concurrent enrollment; or department approval.

RAT-1320 Audio Transducers

03 Semester Credits

Theory, characteristics and operation of various microphone types, loudspeakers, crossovers and speaker/room monitoring considerations.

Lecture 01 hour. Laboratory 04 hours.

Prerequisite(s): RAT-1300 Introduction To Recording or concurrent enrollment, and RAT-1310 Studio Operations or concurrent enrollment; or departmental approval.

RAT-1500 Recording Theory I

03 Semester Credits

Introduction to practical techniques of multi-track recording. Session operating procedures, multiple microphone placement, track assignment, overdubbing, mixdown, and console and recorder operation included.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): RAT-1320 Audio Transducers, and concurrent enrollment in RAT-1510 Recording Lab I.

RAT-1510 Recording Lab I

03 Semester Credits

Practical applications of analog and digital theory and techniques covered in Recording Theory I. Student will record and mix multi-track music and audio for video projects in professional studio environment.

Lecture 00 hours. Laboratory 06 hours.

Prerequisite(s): Concurrent enrollment in RAT-1500 Recording Theory I; or departmental approval.

RAT-1520 Audio Signal Processing

03 Semester Credits

Theory and operation of audio processing equipment. Introduction to entire range of studio effects devices including equalizers, variable gain amplifiers including compressors, limiters, gates and expanders, analog and digital delays and reverberation.

Lecture 01 hour. Laboratory 04 hours.

Prerequisite(s): RAT-1500 Recording Theory I or concurrent enrollment, and RAT-1510 Recording Lab I or concurrent enrollment; or departmental approval.

RAT-1530 Digital Audio Theory

03 Semester Credits

Theory, methods and practical applications of current digital recording systems. Topics include tape and disc-based recorders, operating system installation and maintenance, data storage methods, recording, editing and digital signal processing, and integration of digital recording equipment into modern studio environment. Student will demonstrate fundamental proficiencies in current digital recording methods and procedures.

Lecture 01 hour. Laboratory 04 hours.

Prerequisite(s): RAT-1300 Introduction to Recording, and RAT-1310 Studio Operations, and MUS-1130 MIDI Technology I; or departmental approval.

RAT-2300 Recording Theory II

03 Semester Credits

Continuation of practical techniques of recording. Topics include intermediate recording and mixing theory, recording techniques, critical listening and intermediate ear training.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): RAT-1500 Recording Theory I, and RAT-1510 Recording Lab I, and concurrent enrollment in RAT-2310 Recording Lab II; or departmental approval.

RAT-2310 Recording Lab II

03 Semester Credits

Practical applications of theory and techniques covered in Recording Theory II. Student will produce, record and mix various styles of musical and audio for video projects.

Lecture 00 hours. Laboratory 06 hours.

Prerequisite(s): Concurrent enrollment in RAT-2300 Recording Theory II; or department approval.

RAT-2330 Digital Audio Mixing

03 Semester Credits

Advanced applications of digital audio recording, editing and mixing using current digital console and non-linear workstation environments. Topics include virtual console basics, digital signal processing, plug-ins, digital signal routing, digital automation basics, file interchange and basic project mastering techniques.

Lecture 01 hour. Laboratory 04 hours.

Prerequisite(s): RAT-1530 Digital Audio Theory, or department approval.

RAT-2340 Location Recording

03 Semester Credits

Fundamentals and basic techniques used in non-studio recording for news gathering, conference, public speaking, music and sound effects recording. Main emphasis will be hands-on, and students will record, edit and mix a variety of location projects.

Lecture 01 hour. Laboratory 04 hours.

Prerequisite(s): RAT-1320 Audio Transducers, or department approval.

RAT-2520 Acoustics and Recording Studio Design

03 Semester Credits

Principles of sound, room measurement techniques and discussion of acoustical properties of room materials and their effect on room acoustics. how to build a recording studio—Special emphasis on cost-effective studio design with limited budget.

Lecture 02 hours. Laboratory 02 hours. Prerequisite(s): None.

RAT-2540 Live Sound Reinforcement

03 Semester Credits

Theory and operation of various live sound reinforcement systems. Topics include acoustics, system setup, signal flow, mixing consoles, microphones, signal processing, amps, crossovers and speaker systems.

Lecture 01 hour. Laboratory 04 hours.

Prerequisite(s): RAT-1310 Studio Operations, or department approval.

RAT-2940 Audio Recording Field Experience

01-02 Semester Credits

Cooperative effort between the College and local and national audio-related businesses to provide students with work experience in industry setting. Student, instructor and internship supervisor will develop and implement an “Individual Field Experience Training Plan” which includes general responsibilities, and a training sequence designed to maximize hands-on industry training under actual working conditions.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Field experience: 12 to 24 hours per week.

Prerequisite(s): RAT-2990 Recording Arts and Technology Capstone, or departmental approval.

RAT-2990 Recording Arts and Technology Capstone

03 Semester Credits

Capstone course in Recording Arts and Technology. Student will design and implement a capstone recording project that applies the technical, oral, behavioral and written skills learned in previous RAT coursework, resulting in a cumulative evaluation of student recording skills based on established RAT standards. Includes discussion of emerging audio technologies and their impact on recording industry career opportunities.

Lecture 01 hour. Laboratory 04 hours.

Prerequisite(s): RAT-2300 Recording Theory II, and RAT-2310 Recording Lab II.

Religious Studies – REL

REL-1010 Introduction to Religious Studies

03 Semester Credits

Comprehensive introduction to concepts of religion, attributes of God, myth and symbol, faith and reason, rituals, and overview of major historical religions.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

REL-2010 Religious Traditions of Western Christianity

03 Semester Credits

Comprehensive introduction to history, writings, teachings, and liturgical practices of Western Christianity. Topics include historical Jesus, new testament church, patristic church, medieval church, Protestant Reformation, and Church today (including ecumenical concerns following Second Vatican Council).

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

REL-2020 Religious Traditions of Judaism

03 Semester Credits

Comprehensive introduction to history, writings, teachings, and liturgical practices of Judaism. Topics include historical background, Old Testament, special Jewish festivals, and Judaism's adaptation to modern society.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

REL-2030 Religious Traditions of Islam

03 Semester Credits

Comprehensive introduction to history, writings, teachings, and liturgical practices of Islam. Topics include historical background, Koran, special Islamic festivals, and Islam's adaptation to modern society.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

REL-2040 Religious Traditions of India

03 Semester Credits

Comprehensive introduction to history, writings, teachings, and liturgical practices of religious traditions of India. Focus on Hinduism, Jainism and Sikhism.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

REL-2050 Religious Traditions of China and Japan

03 Semester Credits

Comprehensive introduction to history, writings, teachings, and liturgical practices of Buddhism, Confucianism, Taoism, and Shinto. Topics include lives and teachings of Buddha, Confucius, and Lao Tzu.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

REL-2060 African-American Religious Experience

03 Semester Credits

Comprehensive introduction to religious movements and institutions of African-Americans from the period of slavery to present. Topics include historical background, Protestantism, Islam, civil rights movement and modern role of religion in African-American life.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Eligibility for ENG-1010 College Composition I.

REL-2800 Special Advanced Topics in Religious Studies

1-3 Semester Credits

REL-2820 Independent Advanced Study in Religious Studies

1-3 Semester Credits

Respiratory Care – RESP

RESP-1300 Respiratory Care Equipment

04 Semester Credits

Overview of application of physical principles pertaining to physiologic function and diagnostic and therapeutic modalities employed in field of Respiratory Care. Function and operation of respiratory care equipment: primary gas systems, gas regulating devices, oxygen controllers, humidifiers, nebulizers, oxygen administering devices, oxygen analyzers, airways, manual resuscitators, monitoring and measuring equipment, and sterilization methods.

Lecture 03 hours. Laboratory 03 hours.

Prerequisite(s): Concurrent enrollment in RESP- 1310 Cardiopulmonary Physiology, and departmental approval: admission to program.

RESP-1310 Cardiopulmonary Physiology

03 Semester Credits

Physiology of cardiovascular and pulmonary systems with emphasis on electrophysiology of the heart, electrocardiography interpretation, blood flow characteristics and hemodynamics. Pulmonary system emphasis on lung volumes, dynamics of ventilation, pulmonary function tests, diffusion, ventilation to perfusion characteristics, gas transport, oxygenation studies and control of ventilation.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval.

RESP-1320 Acid-Base and Hemodynamics

02 Semester Credits

Overview of acid-base regulation, integrating physiologic functions of renal and respiratory systems. Emphasis is on body buffer systems, oxygen and carbon dioxide transport systems, basic chemistry and circulating blood forces through the body. Patient analysis and principles of equipment used in analysis of acid base, oxygenation status, cardiac output and cardiac blood pressures addressed.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): RESP-1310 Cardiopulmonary Physiology, and concurrent enrollment in RESP-1330 Cardiopulmonary Assessment and Pulmonary Diseases, and concurrent enrollment in RESP-1340 Pharmacology for Respiratory Care; or departmental approval.

RESP-1330 Cardiopulmonary Assessment and Pulmonary Diseases

05 Semester Credits

Theory and application of cardiopulmonary assessment, medical records, and charting. Includes physical assessment, assessment of lab values, radiologic evaluation, vital signs, EKG and pulmonary function testing and interpretation. Discussion of diseases including emphysema, chronic bronchitis, asthma, bronchiectasis, cystic fibrosis, pneumoconiosis, adult respiratory distress syndrome, pneumonia, pulmonary edema, cancer, acquired immune deficiency syndrome, tuberculosis, myasthenia gravis, Guillain-Barre and amyotrophic lateral sclerosis. Emphasis is on identifying signs and symptoms of pulmonary diseases, and basic respiratory management of patient.

Lecture 04 hours. Laboratory 03 hours.

Prerequisite(s): RESP-1310 Cardiopulmonary Physiology; concurrent enrollment in RESP-1320 Acid-Base and Hemodynamics; concurrent enrollment in RESP-1340

Pharmacology for Respiratory Care; and BIO-2340 Anatomy and Physiology II, or concurrent enrollment.

RESP-1340 Pharmacology for Respiratory Care

02 Semester Credits

General principles of pharmacology and calculations of drug dosages. Discussion of pharmacologic principles and agents used in treatment of cardiopulmonary disorders.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): RESP-1310 Cardiopulmonary Physiology; and concurrent enrollment in RESP-1320 Acid-Base and Hemodynamics; and concurrent enrollment in RESP-1330 Cardiopulmonary Assessment and Pulmonary Diseases.

RESP-1410 Beginning Polysomnography

02 Semester Credits

Overview of the field of Polysomnography including job responsibilities, credentialing, medical ethics and patient confidentiality. Normal and abnormal sleep disorders, integrating the physiologic functions of the nervous, respiratory and cardiovascular systems. Emphasis on basic sleep sciences, physiology, monitoring, electrical safety, diagnosis and treatment of sleep disorders.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval: admission to the Polysomnography program; and BIO-2330 Anatomy and Physiology I or concurrent enrollment.

RESP-1421 Intermediate Polysomnography I

02 Semester Credits

Basic discussion of recording sleep apnea montage.

Emphasis on equipment, principle of operation, associated activity related to normal and abnormal stages of sleep, placement and calibration of the following: electroencephalography (EEG), electro-oculography (EOG), electrocardiography (ECG), electromyography (EMG), pulse oximetry (SpO₂), inductive plethysmography and airflow thermocouple.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): RESP-1410 Beginning Polysomnography; departmental approval: current experience in a sleep disorders center.

RESP-142L Intermediate Polysomnography I Laboratory

01 Semester Credits

Laboratory course examines the recording of sleep apnea montage. Includes equipment, and principle of operation. Placement and calibration of the following: electroencephalography (EEG), electro-oculography (EOG), electrocardiography (ECG), electromyography (EMG), pulse oximetry (SpO₂), inductive plethysmography and airflow thermocouple. Designed to illustrate concepts covered in the lecture course.

Lecture 00 hours. Laboratory 02 hours.

Prerequisite(s): Current enrollment in RESP-1421 is strongly recommended.

RESP-1430 Intermediate Polysomnography II

03 Semester Credits

Presentation and discussion of psychomotor practices related to interpretation of the polysomnogram for adult and pediatric patients. Emphasis on continuous positive airway pressure (CPAP) and bilevel positive airway pressures (BiPAP) equipment, artifact and troubleshooting of sleep montage results. Includes digital data acquisition, parasomnias and nocturnal penile tumescence.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): RESP-1934 Directed Practice I; concurrent enrollment in RESP-2934 Directed Practice II; and departmental approval: admission to program.

RESP-1440 Neurophysiology of Sleep

02 Semester Credits

Basic discussion of neurophysiology of sleep and role of autonomic nervous system. Emphasis on respiratory and cardiovascular effects, regulation of sleep, circadian rhythms, and maturation of sleep stages addressing neonates to adults.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): BIO-2440 Anatomy and Physiology II; concurrent enrollment in RESP-1430 Intermediate Polysomnography II; and departmental approval: admission to program.

RESP-1934 Directed Practice I

03 Semester Credits

Directed practice in clinical setting in sleep laboratory or a sleep center. Departmental orientation, policies and procedures, individual body mechanics and patient transfer techniques. Emphasis in overseeing periodic cessation of respiratory activity based on placement and monitoring of the following: electroencephalography (EEG), electrooculography (EOG), electrocardiography (ECG), electromyography (EMG), pulse oximetry (SpO₂), inductive plethysmography and airflow thermocouple.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Directed Practice: 18 hours per week.

Prerequisite(s): RESP-1410 Beginning Polysomnography; concurrent enrollment in RESP-1420 Intermediate Polysomnography I; and departmental approval: admission to program.

RESP-2300 Basic Therapeutic Procedures

03 Semester Credits

Theory, clinical application and analysis of basic respiratory care procedures. Emphasis on oxygen therapy, medical gas therapy, tracheal suctioning, humidity and aerosol therapy, chest physical therapy, incentive spirometry, intermittent positive pressure breathing, airway management, bronchoscopy, and thoracotomy tubes.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): RESP-1330 Cardiopulmonary Assessment and Pulmonary Diseases; and concurrent enrollment in RESP-2910 Respiratory Care Directed Practice I.

RESP-2310 Mechanical Ventilation

04 Semester Credits

Theory and application of mechanical ventilation techniques with emphasis on mechanical ventilator characteristics, physiologic effects, patient set-up and evaluation, maintenance of oxygenation, weaning techniques, and nutritional concerns. Discussion on ventilator management and use of high frequency ventilation. Discussion on

medicolegal issues involving life support systems.

Lecture 03 hours. Laboratory 03 hours.

Prerequisite(s): RESP-2910 Respiratory Care Directed Practice I; and concurrent enrollment in RESP-2320 Pediatric/Neonatal Respiratory Care; and concurrent enrollment in RESP-2920 Respiratory Care Directed Practice II.

RESP-2320 Pediatric/Neonatal Respiratory Care

02 Semester Credits

Presentation of theory and its practical application to pediatric and neonatal respiratory disease states. Includes pathophysiology, etiology, patient assessment and treatment using equipment unique to this specialty area.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): RESP-2300 Basic Therapeutic Procedures; and concurrent enrollment in RESP-2310 Mechanical Ventilation; and concurrent enrollment in RESP-2920 Respiratory Care Directed Practice II.

RESP-2330 Respiratory Home Care/Rehabilitation

01 Semester Credit

Identification of therapist's role in home care and pulmonary rehabilitation. Presentation of oxygen therapy and delivery systems in private home. Procedure for institution and maintenance of home mechanical ventilation. Outline of new trends in homecare and pulmonary rehabilitation. Guidelines on setting up hospital-based pulmonary rehabilitation programs along with patient management and follow-up strategies.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): RESP-2920 Respiratory Care Directed Practice II; and concurrent enrollment in RESP-2340 Patient Management Problems and Research.

RESP-2340 Patient Management Problems and Research

02 Semester Credits

Reinforces clinical education components of information gathering and decision-making specific to assessment and treatment of cardiopulmonary impairment. Specific emphasis placed on methodologies involved in obtaining and prioritizing diagnostic information. Comprehensive self-assessment at advanced practitioner level of respiratory care administered. Introduction to clinical research and steps involved in research process. Emphasis on development of research question, literature review and data collection.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): RESP-2920 Respiratory Care Directed Practice II; concurrent enrollment in RESP-2930 Respiratory Care Directed Practice III; and departmental approval.

RESP-2910 Respiratory Care Directed Practice I

03 Semester Credits

Directed practice in clinical setting to respiratory care equipment, policies, and procedures. Emphasis on patient assessment, bedside pulmonary function testing, aerosol therapy, incentive spirometry and oxygen therapy.

Lecture 01 hour. Laboratory 00 hours.

Other Required Hours: Directed practice: 180 hours per semester.

Prerequisite(s): RESP-1330 Cardiopulmonary Assessment and Pulmonary Diseases; RESP-1340 Pharmacology for Respiratory Care; and concurrent enrollment in RESP-2300 Basic Therapeutic Procedures.

RESP-2920 Respiratory Care Directed Practice II

05 Semester Credits

Directed practice in clinical setting on respiratory therapy equipment, policies, and procedures. Emphasis on intubation, arterial blood gas punctures and analysis, bronchopulmonary hygiene, intermittent positive pressure breathing, manual ventilation and suctioning, and mechanical ventilation. Clinical activities also include proficiencies completed in patient assessment, aerosol therapy, incentive spirometry, bedside pulmonary function testing, and oxygen therapy.

Lecture 01 hour. Laboratory 00 hours.

Other Required Hours: Directed practice: 24 hours per week.

Prerequisite(s): RESP-2910 Respiratory Care Directed Practice I; and concurrent enrollment in RESP-2310 Mechanical Ventilation.

RESP-2930 Respiratory Care Directed Practice III

05 Semester Credits

Capstone course in Respiratory Care. Directed practice in clinical setting on respiratory therapy equipment, policies, and procedures. Emphasis on adult volume/pressure ventilation, and continuous positive airway pressure, pulmonary function testing in the laboratory, pediatric patient care, home care, rehabilitation, weaning from mechanical ventilation, respiratory care in extended care facility environment, and patient transport.

Lecture 01 hour. Laboratory 00 hours.

Other Required Hours: Directed practice: 24 hours per week.

Prerequisite(s): RESP-2920 Respiratory Care Directed Practice II.

RESP-2934 Directed Practice II

03 Semester Credits

Directed practice in clinical setting in sleep laboratory or a sleep center. Departmental orientation, policies and procedures. Assist adult and pediatric patient setup and discontinuance in monitoring electroencephalography (EEG), electrooculography (EOG), electrocardiography (ECG), electromyography (EMG), pulse oximetry (SpO₂), inductive plethysmography and airflow thermocouple. Emphasis on scoring a sleep montage related to respiratory cessation.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Directed practice: 18 hours per week.

Prerequisite(s): RESP-1934 Directed Practice I; concurrent enrollment in RESP-1430 Intermediate Polysomnography II; and departmental approval: admission to program.

Russian – RUSS

RUSS-1010 Beginning Russian I

04 Semester Credits

Introduction to modern Russian language. Emphasis on speaking, understanding spoken Russian, reading and writing through multiple approaches including audio, video and computer components. Supporting study of basic principles of grammar.

Lecture 03 hours. Laboratory 02 hours. Prerequisite(s): None.

RUSS-1020 Beginning Russian II

04 Semester Credits

Continued study of grammar and vocabulary. Oral and written exercises. Reading of texts of medium difficulty. Developing aural comprehension skills and ability for oral expression through patterns learned from audio-visual materials used in classroom.

Lecture 03 hours. Laboratory 02 hours.

Prerequisite(s): RUSS-1010 Beginning Russian I, or departmental approval.

RUSS-1800 Special Topics in Russian

1-3 Semester Credits

RUSS-1820 Independent Study in Russian

1-3 Semester Credits

RUSS-2010 Intermediate Russian I

03 Semester Credits

Introduction to more advanced vocabulary and speech patterns and continuation of in-depth study of grammar. Practical application of skills of understanding, speaking, reading and writing Russian. Cultural exposure through reading texts and using multi-media approaches. Attendance at various cultural events may be required.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): RUSS-1020 Beginning Russian II, or departmental approval.

RUSS-2020 Intermediate Russian II

03 Semester Credits

In-depth study of advanced vocabulary and speech patterns, complex sentence structures and grammar. Advanced skills in understanding, speaking, reading and writing. Continued cultural exposure through text reading, film viewing, audio, video and computer materials and discussions.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): RUSS-2010 Intermediate Russian I, or departmental approval.

RUSS-2410 Russian Conversation and Composition

03 Semester Credits

Conversation and composition revolve around topics of general interest taken from everyday life. In conversing, students develop pronunciation, intonation, fluency and comprehension skills. Writing fosters practice of familiar terminology mixed with new vocabulary and idioms.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): RUSS-2020 Intermediate Russian II, or departmental approval.

Course Descriptions

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RUSS-2420 Russian Literature and Culture

03 Semester Credits

Survey of Russian literature, emphasizing 19th and 20th centuries, highlighting prose and verse of representative writers and their works in perspective of traditional and contemporary Russian culture.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): RUSS-2020 Intermediate Russian II, or departmental approval.

RUSS-2800 Special Advanced Topics in Russian

1-3 Semester Credits

RUSS-2820 Independent Advanced Study in Russian

1-3 Semester Credits

Social Science – SSCI

SSCI-1030 Introduction to Social Science I

03 Semester Credits

Interdisciplinary approach to social sciences, outlining roles of separate disciplines as related to anthropological, sociological, and social psychological behavior. Current issues discussed.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

SSCI-1040 Introduction to Social Science II

03 Semester Credits

Interdisciplinary approach to study of social sciences outlining roles of separate disciplines as related to organizational, demographic, and historical analyses of behavior. Current issues discussed.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): SSCI-1030 Introduction to Social Science I, or SOC-1010 Introductory Sociology, or ANTH-1010 Cultural Anthropology.

SSCI-1800 Special Topics in Social Science

1-3 Semester Credits

Course Descriptions

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Sociology - SOC

SOC-1010 Introductory Sociology

03 Semester Credits

Survey of principles, sociological perspectives, theories, concepts, and research methods used in the field. Intensive study of concepts such as culture, social interaction, organization, norms, statuses, roles, social stratification, and application of sociology to current events.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

SOC-1020 Social Institutions

03 Semester Credits

Examination of major social institutions; the family, religion, education, polity, economy, and mass communications; employing principles, concepts, theories and research methods.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): SOC-1010 Introductory Sociology, or SSCI-1030 Introduction to Social Science I, or ANTH-1010 Cultural Anthropology.

SOC-1210 Sociology of the Family

03 Semester Credits

Historical, comparative, and contemporary analysis of marriages and families and their relationship to other social institutions. Sociological perspectives used to understand social, psychological and economical aspects of intimate interpersonal relations across lifecourse and among variety of lifestyles and cultures.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): SOC-1010 Introductory Sociology, or SSCI-1030 Introduction to Social Science I, or PSY-1010 General Psychology, or PSY-101H Honors, or ANTH-1010 Cultural Anthropology.

SOC-1800 Special Topics in Sociology

1-3 Semester Credits

SOC-1820 Independent Research in Sociology

1-3 Semester Credits

SOC-2010 Social Problems

03 Semester Credits

Analysis of contemporary American social problems such as race, poverty, drugs, sex, violence, crime and delinquency. Sociological approach used to understand underlying factors and history of problems and evaluate individual and societal solutions.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): SOC-1010 Introductory Sociology, or PSY-1010 General Psychology, or PSY-101H Honors, or SSCI-1030 Introduction to Social Science I, or ANTH-1010 Cultural Anthropology.

SOC-2050 Introduction to Social Services and Social Work

03 Semester Credits

Surveys history, functioning, and social issues of social welfare system relating them to broader American socio-economic and political systems. Special focus on problems of economically and socially disadvantaged groups.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): SOC-1010 Introductory Sociology, or PSY-1010 General Psychology, or PSY-101H Honors.

SOC-2060 Human Behavior and the Social Environment

03 Semester Credits

Social work perspective on human development across the life cycle. Human diversity approach consistent with the needs of social work students preparing for practice.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): SOC-1010 Introductory Sociology, and PSY-1010 General Psychology or PSY-101H Honors.

SOC-2070 Poverty in the United States

03 Semester Credits

Survey of social and personal dimensions of life in the inner city and other areas of poverty in United States. For person wishing to develop an in-depth understanding and/or intending to work in such areas.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): SOC-2050 Introduction to Social Services and Social Work.

SOC-2100 Aging and Society

03 Semester Credits

Cross-cultural examination of social, biological and psychological processing of aging. Societies studied with regards to social characteristics of older citizens, their social roles and relations with various social institutions, friends and voluntary associations. Impact of social class, race, ethnicity, and religion on aging and ageism considered.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): SOC-1010 Introductory Sociology, or PSY-1010 General Psychology, or PSY-101H Honors, or SSCI-1030 Introduction to Social Science I, or ANTH-1010 Cultural Anthropology.

SOC-2110 Death and Dying

03 Semester Credits

Examination of death and dying through a multi-disciplinary approach to understand the connection of death and dying in various contexts: sociological, ethical, medical, legal, psychological, and religious.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): SOC-1010 Introductory Sociology, or SSCI-1030 Introduction to Social Science I, or PSY-1010 General Psychology, or PSY-101H Honors, or ANTH-1010 Cultural Anthropology.

SOC-2150 Deviance

03 Semester Credits

Examination of the nature of deviance, theories, social and societal reactions. Different types of deviant behavior are examined, including topics such as sexual deviance, criminal homicide, drugs, medical deviance and other forms of deviant behavior.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): SOC-1010 Introductory Sociology, or SSCI-1030 Introduction to Social Science I, or PSY-1010 General Psychology, or PSY-101H Honors.

SOC-2210 Dating and Intimate Relationships

03 Semester Credits

Intimate relationships studied on life course continuum from pre-teen to late adulthood, taking into consideration the profound effects exerted by ethnicity, race, gender, human sexuality, socioeconomic status, age and place of residency. Analysis of the state, quality and issues related to various types of intimate relationships over time with emphasis on friendship, dating, cohabitation, marriage, dissolution and resolution. Students use C. Wright Mills' concepts of the sociological imagination, public issues, and personal troubles to link events in society to the state of intimate relationships in America today.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): SOC-1010 Introductory Sociology, or SSCI-1030 Introduction to Social Science I, or ANTH-1010 Cultural Anthropology, or PSY-1010 General Psychology, or PSY-101H Honors General Psychology.

SOC-2310 Contemporary American Black-White Relations

03 Semester Credits

Sociological and psychological analysis of contemporary American black-white relations. Study of minority-majority behavior patterns as related to social-historical structure, stratification, and power. Consideration of programs, movements and alternative solutions to present conditions.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): SOC-1010 Introductory Sociology, or PSY-1010 General Psychology, or PSY-101H Honors, or SSCI-1030 Introduction to Social Science I, or ANTH-1010 Cultural Anthropology.

SOC-2510 Urban Sociology

03 Semester Credits

Analysis of historical development of contemporary metropolis with its challenges to diversity, equality, inclusion, and change. Sociological concepts, theories and research methods used to characterize urban life and examine interrelatedness of social institutions typical of postmodern society. Cross-national comparisons drawn.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): SOC-1010 Introductory Sociology, or SSCI-1030 Introduction to Social Science I, or PSY-1010 General Psychology, or PSY-101H Honors, or ANTH-1010 Cultural Anthropology.

SOC-2550 Race and Ethnic Relations

03 Semester Credits

Analysis of sources, processes, and consequences of current intergroup relations in United States; identification of various segments of population, their history and patterns of adaptation to prejudice and discrimination; exploration of attempts to equalize power differences and structured social inequality. Includes cross-cultural comparisons.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): SOC-1010 Introductory Sociology, or PSY-1010 General Psychology, or PSY-101H Honors, or SSCI-1030 Introduction to Social Science I, or HIST-1720 African-American History 1877 to Present, or ANTH-1010 Cultural Anthropology.

SOC-2800 Special Advanced Topics in Sociology

1-3 Semester Credits

SOC-2820 Independent Advanced Research in Sociology

1-3 Semester Credits

SOC-2830 Cooperative Field Experience

1-3 Semester Credits

Spanish – SPAN

SPAN-1010 Beginning Spanish I

04 Semester Credits

Introduction to Spanish through multiple approach with emphasis on speaking and understanding. Practice in conversational Spanish and aural comprehension on topics of daily interest. Some practice in writing basic sentences and small simple paragraphs on relevant topics, and reading short paragraphs.

Lecture 03 hours. Laboratory 02 hours. Prerequisite(s): None.

SPAN-1020 Beginning Spanish II

04 Semester Credits

Development of proficiency in speaking, understanding, reading, and writing in Spanish. Emphasis on strengthening conversational skills through discussions of selected readings, cultural topics and more conversational opportunities.

Lecture 03 hours. Laboratory 02 hours.

Prerequisite(s): SPAN-1010 Beginning Spanish I, or one year of high school Spanish, or departmental approval.

SPAN-1800 Special Topics in Spanish

1-3 Semester Credits

SPAN-2010 Intermediate Spanish I

03 Semester Credits

Intensive exercises in written and oral expression. Grammar review and vocabulary building. Study of Spanish and Mexican civilizations. Introduction to literature.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): SPAN-1020 Beginning Spanish II; or two years of high school Spanish; or departmental approval.

SPAN-2020 Intermediate Spanish II

03 Semester Credits

Intensive exercises in written and oral expression. Additional grammar review and vocabulary building. Further exploration of Spanish.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): SPAN-2010 Intermediate Spanish I, or three years of high school Spanish, or departmental approval

SPAN-2410 Spanish Conversation and Composition

03 Semester Credits

Discussion on topics of everyday life, colloquialisms, vocabulary augmentation, and improvement of speech patterns. Practice in writing compositions.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): SPAN-2020 Intermediate Spanish II or concurrent enrollment with departmental approval: three years of high school Spanish.

SPAN-2420 Introduction to Spanish Culture, Civilization, and Literature

03 Semester Credits

Introduction to Spanish civilization and literature from early beginning to present day. Special emphasis on interrelationship between history and geography, and literature of Spain and its culture.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): SPAN-2020 Intermediate Spanish II, or concurrent enrollment with departmental approval: three years of high school Spanish.

SPAN-2430 Civilization, Culture, Literature of Latin America

03 Semester Credits

Instruction in Spanish. Civilization and literature of Latin America from pre-Columbian period to present.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): SPAN-2020 Intermediate Spanish II, or concurrent enrollment with departmental approval: three years of high school Spanish.

SPAN-2800 Special Advanced Topics in Spanish

1-3 Semester Credits

Course Descriptions

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Speech Communication – SPCH

SPCH-0910 Basic Communication Skills

03 Semester Credits

Demonstrate ways communication can be processed, distorted, or shared. Special emphasis on personal communication growth, processing information, message; analysis and verbal expression as basic communication skills necessary for college achievement.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

SPCH-1000 Fundamentals of Interpersonal Communication

03 Semester Credits

Involvement and experience in purpose and process of verbal and non-verbal communication to strengthen daily communication skills. Special emphasis given to perception, self concept, expressing feelings, empathy and listening as learned interpersonal skills. Combines theoretical concepts with experiential learning through lecture, discussion, and simulations.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

SPCH-1010 Fundamentals of Speech Communication

03 Semester Credits

Effective speech communication. Application of principles of speech content and delivery to variety of practical speaking and listening situations.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

SPCH-1050 Voice and Articulation

03 Semester Credits

Practical course in application of both theory and technique to conscious vocal control and development of articulation and pronunciation standards. Individual and group practice. Performance through exercises and readings.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

SPCH-1210 Group Discussion

03 Semester Credits

Basic elements of communications and small group theory as employed in typical small group situation. Emphasis placed on individual's responsibility in discussion setting, focusing on development of leadership abilities within each group. Analysis of group interaction in problem-solving process for task-oriented groups.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

SPCH-1800 Special Topics in Speech Communications

1-3 Semester Credits

SPCH-1820 Independent Study in Speech Communications

1-3 Semester Credits

SPCH-2010 Advanced Public Speaking

03 Semester Credits

Organizing and presenting informative speeches, persuasive speeches and speeches for special occasions. Emphasis on using evidence and reasoning to support ideas, adapting to audience, developing effective oral style, and improving physical and vocal attributes of delivery.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): SPCH-1010, Fundamentals of Speech

Communication, or departmental approval: comparable knowledge or skills.

SPCH-2020 Interviewing

03 Semester Credits

Theory and practice of interviewing, including interview structures, questioning techniques and formats, and a range of interview types. Specific practice in selection and workplace interviewing. Modular courses SPCH-202A, SPCH-202B and SPCH-202C together will also meet requirements for this course.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

SPCH-202A Interviewing Overview

01 Semester Credit

Theory and practice of interviewing, including interview structures, questioning techniques and formats, interviewing etiquette, listening skills, and nonverbal communication issues in interviewing. This course required before taking other interviewing modules on specific interview types. Verify transferability of this modular course with your receiving institution.

Lecture 01 hour. Laboratory 00 hours. Prerequisite(s): None.

SPCH-202B Selection Interviewing

01 Semester Credit

Theory and practice of selection interviewing, from the point of view of both the applicant and the employer. Verify transferability of this modular course with your receiving institution.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): SPCH-202A Interviewing Overview.

SPCH-202C Workplace Interviewing

01 Semester Credit

Theory and practice of interviewing in the workplace, specifically including performance appraisal, exit, and disciplinary interviews, as well as workplace coaching. Verify transferability of this modular course with your receiving institution.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): SPCH-202A Interviewing Overview.

SPCH-2050 Oral Interpretation

03 Semester Credits

Development of student's oral ability to communicate various types of written material with understanding and appreciation.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): SPCH-1010 Fundamentals of Speech Communication.

SPCH-2060 Interviewing for Information

01 Semester Credit

Theory and practice of interviewing for information, specifically journalistic and information gathering interviewing, health related interviewing, and survey interviewing. Verify transferability of this course with your receiving institution.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): SPCH-2020 Interviewing or SPCH-202A Interviewing Overview.

SPCH-2070 Relational Interviewing

01 Semester Credit

Theory and practice of interviewing conducted to affect relationships, specifically problem-solving interviews, persuasive interviews, and counseling interviews. Verify transferability of this course with your receiving institution.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): SPCH-2020 Interviewing or SPCH-202A Interviewing Overview.

SPCH-2110 Argumentation and Debate

03 Semester Credits

Discovering, selecting and evaluating evidence and arrangement into orderly persuasive oral and written argument. Special emphasis on causes and effects of prejudice, remedies and influence of language on human behavior.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): SPCH-1010 Fundamentals of Speech Communication, or departmental approval: comparable knowledge or skills.

SPCH-2120 Forensics Activity

01 Semester Credit

Participation in variety of forensic activities by assignment including intercollegiate debate, choral reading, reader theatre, and individual events. May be repeated for a maximum of three credit hours.

Lecture 01 hour. Laboratory 00 hours.

Prerequisite(s): SPCH-2110 Argumentation and Debate; or SPCH-2050 Oral Interpretation; or departmental approval: comparable knowledge or skills.

SPCH-2130 Business and Professional Communication

03 Semester Credits

Familiarizes students with theories and practices of oral communication which occur in organizational/ business environment in individual or group situations.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): SPCH-1000 Fundamentals of Interpersonal Communication; or SPCH-1010 Fundamentals of Speech Communication; or SPCH-1210 Group Discussion; or departmental approval: comparable knowledge or skills.

SPCH-2150 Introduction to Speech Pathology

03 Semester Credits

Survey of profession of speech pathology and introduction to various organic and functional speech disorders including deviant articulation, delayed speech development, and stuttering. Techniques for diagnosis and treatment explored.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): SPCH-1050 Voice and Articulation, and departmental approval: sophomore standing or consent of instructor.

SPCH-2160 Intercultural Communication

03 Semester Credits

Theory and application of communication concepts operating between people of different cultures.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Department approval.

SPCH-2800 Special Advanced Topics in Speech Communications

1-3 Semester Credits

SPCH-2820 Independent Advanced Study in Speech Communications

1-3 Semester Credits

Surgical Physician Assistant - SPA

SPA-1300 Electrocardiography

01 Semester Credit

Designed to give students working knowledge of basic electrocardiography and basic cardiac arrhythmias, including their mechanism, ECG tracing presentation, clinical significance, and treatment modalities. Technique of 12-lead ECG recording and interpretation presented.

Lecture 00 hours. Laboratory 02 hours.

Prerequisite(s): Departmental approval or admission to Physician Assistant or Surgical Physician Assistant program.

SPA-1310 Adjuncts to Diagnosis

03 Semester Credits

Introduction to diagnostic and therapeutic procedures utilized to evaluate pulmonary, abdominal, cardiac, skeletal, genitourinary, neurological, and vascular systems. Includes laboratory, radiography, and respiratory methods and techniques, their indications and general principles of interpretation.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval or admission to Physician Assistant or Surgical Physician Assistant program.

SPA-1320 Basic Surgical and Technical Skills

02 Semester Credits

Presentation and discussion of fundamental technical clinical and surgical skills required of Physician Assistant or Surgical Physician Assistant in diagnostic and therapeutic management of primary care and surgical patients. Focus on preparation for working in operating room or emergency room.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): Departmental approval or admission to Physician Assistant or Surgical Physician Assistant program.

SPA-1330 Advanced Surgical Skills

02 Semester Credits

Presentation, discussion, and demonstration of surgical skills required to perform first assistant tasks during operative procedure in various surgical sub-specialties. Students problem-solve and research topics related to material covered in previous program courses and surgical sub-specialties through small group review and discussion of case studies. Includes participation in live tissue lab.

Lecture 01 hour. Laboratory 02 hours.

Prerequisite(s): SPA-1320 Basic Surgical and Technical Skills, or departmental approval.

SPA-1340 Clinical Anatomy

02 Semester Credits

In-depth study of clinical anatomy of the human body. Emphasis on important anatomical landmarks required in physical evaluation of patient, anatomical relationships of structures to each other, anatomical components of body systems, and blood and nerve supply to organs and body regions. Includes common pathological processes and topical landmarks related to common surgical procedures.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval or admission to the Physician Assistant or Surgical Physician Assistant program.

SPA-2300 Surgical Patient Management

01 Semester Credit

Capstone course in Surgical Physician Assistant program. Instruction in surgical patient management, including selection and interpretation of diagnostic and therapeutic procedures, correlation of medical history and physical examination data. Integration of diagnostic skills through simulated case studies and problem solving activities.

Includes presentation and discussion of specific aspects of care and preparation of surgical patient in perioperative period, including risk factors affecting surgical morbidity and mortality.

Lecture 00 hours. Laboratory 03 hours.

Prerequisite(s): SPA-1330 Advanced Surgical Skills, and PA-1510 Clinical Medicine II.

SPA-2500 Emergency Medicine

02 Semester Credits

Presentation and discussion of patient assessment, management, and treatment of life threatening medical problems, psychosocial problems, and other common problems which may be encountered in Emergency Room or in critically ill patient.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): PA-1510 Clinical Medicine II.

SPA-2510 Fundamentals of Clinical Surgery

03 Semester Credits

Study of pathophysiology, clinical manifestations, and therapeutic management of surgically related disorders of human body.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): SPA-1330 Advanced Surgical Skills, or departmental approval.

SPA-2941 Field Experience I

02 Semester Credits

Supervised field experience rotations in clinical health care settings. Students assigned to medical/surgical services with responsibility for history and physical examination, assisting in surgery, following clinical course of medical and surgical patients, carrying out pre-operative and post-operative procedures assigned by and under supervision of surgeon, resident surgical staff, or surgical PA. Students expected to demonstrate beginning skills. Will assume more individual responsibility as member of medical/surgical team as clinical rotations continue. Rotations in emergency room, internal medicine, and family practice may be included.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Field experience: 360 hours per semester.

Prerequisite(s): SPA-2300 Surgical Patient Management or departmental approval; and concurrent enrollment in SPA-2971 Field Experience Seminar I.

SPA-2946 Field Experience II

02 Semester Credits

Supervised field experience rotations in clinical health care settings. Students assigned to medical/surgical services with responsibility for history and physical examination, assisting in surgery, following clinical course of medical and surgical patients, carrying out pre-operative and post-operative procedures assigned by and under supervision of surgeon, resident surgical staff, or surgical PA. Students expected to demonstrate advancing skills. Will assume more individual responsibility as member of medical/surgical team as clinical rotations continue. Rotations in emergency room, internal medicine, and family practice may be included.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Field experience: 360 hours per semester.

Prerequisite(s): SPA-2941 Field Experience I or concurrent enrollment, or departmental approval; and concurrent enrollment in SPA-2976 Field Experience Seminar II.

SPA-2951 Field Experience III

02 Semester Credits

Supervised field experience rotations in clinical health care settings. Students assigned to medical/surgical services with responsibility for history and physical examination, assisting in surgery, following clinical course of medical and surgical patients, carrying out pre-operative and post-operative procedures assigned by and under supervision of surgeon or resident surgical staff. Students expected to demonstrate intermediate to advanced skills and assume more responsibility with less direct supervision from medical personnel. Rotations in emergency room, internal medicine, and family practice may be included.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Field experience: 360 hours per semester.

Prerequisite(s): SPA-2946 Field Experience II, or departmental approval; and concurrent enrollment in SPA-2981 Field Experience Seminar III.

SPA-2956 Field Experience IV

02 Semester Credits

Supervised field experience rotations in clinical health care settings. Students assigned to medical/surgical services with responsibility for history and physical examination, assisting in surgery, following clinical course of medical and surgical patients, and carrying out pre-operative and post-operative procedures assigned by and under supervision of surgeon or resident surgical staff. Students expected to perform in expanded, competent, and professional role, and assume more responsibility with less direct supervision from medical personnel. Rotations in emergency room, internal medicine, and family practice may be included.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Field experience: 360 hours per semester.

Prerequisite(s): SPA-2951 Field Experience III or concurrent enrollment, or departmental approval; and concurrent enrollment in SPA-2986 Field Experience Seminar IV.

SPA-2971 Field Experience Seminar I

01 Semester Credit

Integrates concepts and knowledge gained from field experience rotations into total learning process. Focuses on patient and professional communication, and lifelong learning. Other discussions on current issues included.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Seminar: 15 hours per semester.

Prerequisite(s): Concurrent enrollment in SPA-2941 Field Experience I, or departmental approval.

SPA-2976 Field Experience Seminar II

01 Semester Credit

Integrates concepts and knowledge gained from field experience rotations into total learning process. Focuses on organization of health care delivery system. Other discussions on current issues included.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Seminar: 15 hours per semester.

Prerequisite(s): Concurrent enrollment in SPA-2946 Field Experience II, or departmental approval.

SPA-2981 Field Experience Seminar III

01 Semester Credit

Integrates concepts and knowledge gained from experience rotations into total learning process. Focuses on professional associations, and political/legislative issues. Other discussions on current issues included.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Seminar: 15 hours per semester.

Prerequisite(s): Concurrent enrollment in SPA-2951 Field Experience III, or departmental approval.

SPA-2986 Field Experience Seminar IV

01 Semester Credit

Capstone course in Surgical Physician Assistant program. Integrates concepts and knowledge gained from experience rotations into total learning process. Focuses on job searching skills. Other discussions on current issues included.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Seminar: 15 hours per semester.

Prerequisite(s): Concurrent enrollment in SPA-2956 Field Experience IV, or departmental approval.

Surgical Technology - SURT

SURT-1300 Introduction to Surgery

05 Semester Credits

Presentation and discussion of development of modern day surgery, organization of operating room department, roles of operating room personnel, health care reform practices, and care of surgical patient. Infection control applicable to operative setting discussed including sterilization of surgical supplies, sterile techniques, and application of sterile techniques in the operating room. Discussion of special items used in the operating room, general and regional anesthesia, wound healing, sutures, and staplers. Legal and ethical aspects of operating room practice introduced.

Lecture 05 hours. Laboratory 00 hours.

Prerequisite(s): Concurrent enrollment in SURT-130L Surgery Lab, and departmental approval: admission to program.

SURT-130L Surgery Lab

02 Semester Credits

Practice of circulating skills and scrub skills of surgical technician. Patient transportation and transfer skills, operation of surgical bed, patient positioning, operation of the electrosurgical unit and suction system, sterile techniques utilized when opening and dispensing sterile supplies, hair removal, skin preparation, urinary catheterization, surgical scrub, gowning and gloving. Employability and problem solving skills introduced.

Lecture 00 hours. Laboratory 06 hours.

Prerequisite(s): Concurrent enrollment in SURT-1300 Introduction to Surgery, and departmental approval: admission to program.

SURT-1330 General Surgery

05 Semester Credits

General surgery. Includes steps of operative procedure, features of general surgery, hemostasis, operative drains, surgical specimens, layers of abdominal wall, abdominal incisions and laparotomy. Discussion on operative procedures may include hernia procedures of the abdominal region, liver and biliary procedures, pancreas and spleen procedures, gastric and related esophageal procedures, lower gastrointestinal procedures, breast surgery, gynecological and obstetrical procedures, and plastics/reconstructive surgery.

Lecture 05 hours. Laboratory 00 hours.

Prerequisite(s): SURT-1300 Introduction to Surgery, and SURT-130L Surgery Lab, and concurrent enrollment in SURT-1910 Clinical Experience.

SURT-1910 Clinical Experience

04 Semester Credits

Beginning level circulating, scrub, and instrumentation skills while caring for a surgical patient in operating room of affiliated hospital. Skills performed correlate with skills learned in Surgery Lab. Includes circulating skills, scrub, gowning and gloving procedures, Back Table and Mayo set ups, surgical draping, instrumentation skills, and employability skills. Perform second assisting duties when applicable and practice instrumentation skills required for each step of procedure.

Lecture 01 hours. Laboratory 00 hours.

Other Required Hours: Directed Practice: 18 hours per week in hospital.

Prerequisite(s): SURT-1300 Introduction to Surgery, and SURT-130L Surgery Lab; and concurrent enrollment in SURT-1330 General Surgery.

SURT-2300 Surgical Specialties

05 Semester Credits

Surgical specialty operative procedures. Includes ophthalmic, genitourinary, orthopedic, neurosurgery, pediatric, head and neck procedures, ear, nose, throat, oral, perivascular, thoracic, cardiac surgery, and transplant surgery.

Lecture 05 hours. Laboratory 00 hours.

Prerequisite(s): SURT-1330 General Surgery, and SURT-1910 Clinical Experience.

SURT-2850 Clinical Practice I

03 Semester Credits

Practical application of previously learned surgical skills at assigned affiliate hospital. Basic competency of scrub skills relating to general and gynecologic operative procedures. One hour weekly seminar, relating to clinical experience, required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 14 hours per week in hospital setting. Seminar: 1 hour per week.

Prerequisite(s): SURT-1330 General Surgery, and SURT-1910 Clinical Experience.

SURT-2860 Clinical Practice II

05 Semester Credits

Focuses on specialty operative procedures. Students rotate to affiliate hospitals for surgical experience. One-hour weekly seminar, relating to clinical experience, required.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 32 hours per week. Seminar: 1 hour per week.

Prerequisite(s): SURT-2850 Clinical Practice I.

Theatre Arts - THEA

THEA-1010 Theatre Appreciation

03 Semester Credits

Examination of theatre as art form. Study of how playwrights, directors, actors, scenic designers, costumers, make-up artists, and technicians approach their crafts.

Students not required to perform.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

THEA-1100 Survey and Appreciation of American Musical Theatre

03 Semester Credits

Survey and appreciation of dramatic, musical and staging development of American musical theatre from 18th century through 20th century, including mega-musicals of 1990's.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

THEA-1300 Fundamentals of Theatrical Makeup

03 Semester Credits

Practical application of theory and techniques of makeup for performers.

Lecture 02 hours. Laboratory 02 hours. Prerequisite(s): None.

THEA-1400 Stage Design I--Scenery

03 Semester Credits

Theory and practice of scenic design. Orientation to creating elements of stage scenery.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

THEA-1410 Stage Design II--Scenery and Lighting

03 Semester Credits

Examination of scenic design styles. Preparation of floor plan, elevations and colored renderings to use in creating a scale model. Study and practice of stage lighting design.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): THEA-1400 Stage Design I-Scenery, or departmental approval: prior stage design experience.

THEA-1500 Acting I

03 Semester Credits

Exploration of theory and practice of basic tools of acting: body movement, vocal production, and imagination. Introduction to character analysis, scene study and improvisation.

Lecture 02 hours. Laboratory 02 hours. Prerequisite(s): None.

THEA-1510 Acting II

03 Semester Credits

In-depth exploration of theory and application of basic techniques of acting: actor's tools, improvisation, character analysis and scene analysis. Introduction to auditioning.

Focused emphasis on refining imaginative, vocal and physical skills required for creating character.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): THEA-1500 Acting I, or departmental approval: prior acting experience.

THEA-1530 Stagecrafts

02 Semester Credits

Workshop in technical theatre: scenery, lighting, costumes, properties and sound by classroom study and/or by assignment in campus theatrical productions. Repeatable. No more than six credits may be applied to elective degree requirements.

Lecture 01 hour. Laboratory 03 hours. Prerequisite(s): None.

THEA-1540 Rehearsal and Performance

02 Semester Credits

Practical experience for students accepted as members of College theatre company as actors, stage managers or in positions created by needs of specific productions.

Repeatable. No more than six credits may be applied to elective degree requirements.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Concentrated practice: 14 hours per week.

Prerequisite(s): Departmental approval: by audition.

THEA-1600 Acting for the Camera I

03 Semester Credits

Studio situation to learn basic studio and on-location techniques, video performance training, audio broadcast techniques and to acquire mass media experience for use in professional settings or for personal advancement.

Lecture 02 hours. Laboratory 02 hours. Prerequisite(s): None.

THEA-1800 Special Topics in Theatre Arts

1-3 Semester Credits

THEA-181S Special Laboratory Topics in Theatre Arts

1-3 Semester Credits

Specialized two-hour lab per credit.

THEA-181T Special Laboratory Topics in Theatre Arts

1-3 Semester Credits

Specialized three-hour lab per credit.

THEA-1820 Independent Study in Theatre Arts

1-3 Semester Credits

THEA-2100 Arts Management

03 Semester Credits

Introduction to principles and methods of management of arts and cultural institutions. Detailed study of organizational structures, funding and revenue, facilities scheduling and production, marketing, community relations and legal issues.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

THEA-2210 History of Theatre and Drama I

03 Semester Credits

[formerly THEA-1210]

History of theatre and drama from its origins to Europe's Renaissance. Includes development of physical theatre, evolution of dramatic presentations, theatrical conventions and theatre techniques.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

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THEA-2220 History of Theatre and Drama II

03 Semester Credits

[formerly THEA-1220]

Traces the history of theatre and drama from Europe's Renaissance to present theatrical conventions. Beginning where History of Theatre and Drama I ends, development of physical theatre, evolution of dramatic presentations, and theatre techniques are covered.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): THEA-2210 History of Theatre and Drama I, or departmental approval.

THEA-2500 Acting III

03 Semester Credits

Advanced exploration and refinement of acting techniques as applied to various approaches to creating character. Refinement of audition technique. Focus on scene study and methods of characterization.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): THEA-1510 Acting II, or departmental approval: prior acting experience.

THEA-2510 Acting IV

03 Semester Credits

Application of scene analysis skills and methods of characterization to advanced scene styles. Consideration of period demands. Identification of individual approach to acting.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): THEA-2500 Acting III, or departmental approval: prior acting experience.

THEA-2600 Acting for the Camera II

03 Semester Credits

Video performance training leading to preparation of sample tapes; audition procedures and conduct; financial aspects of local and national market; director for camera; interaction and shot composition.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): THEA-1600 Acting for the Camera I, or departmental approval: prior experience.

THEA-2740 Internship

01-03 Semester Credits

Provides student with on-the-job application of skills learned in the liberal arts and specifically Theatre. Each internship based on individualized learning contract. Requirement for one credit is 180 hours of approved work per semester.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Internship: 180 clock hours of approved work per credit hour.

Prerequisite(s): Departmental approval: completion of 30 semester credits; completion of 15 semester credits at Cuyahoga Community College; 2.75 GPA; completion of 20 semester credits in liberal arts; completion of 9 semester credits in Theatre; two letters of recommendation from liberal arts faculty, one of which must be from area of placement.

THEA-2800 Special Advanced Topics in Theatre Arts

1-3 Semester Credits

THEA-281S Special Advanced Laboratory Topics in Theatre Arts

1-3 Semester Credits

Specialized two-hour lab per credit.

THEA-281T Special Advanced Laboratory Topics in Theatre Arts

1-3 Semester Credits

Specialized three-hour lab per credit.

THEA-2820 Independent Advanced Study in Theatre Arts

1-3 Semester Credits

THEA-2830 Cooperative Field Experience

1-3 Semester Credits

Urban Studies – UST

UST-1010 Introduction to Urban Studies

03 Semester Credits

Examination of background of major urban problems, with overview of U.S. urban history; emphasis on description and analysis of roots of contemporary urban America.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

UST-1020 Urban Geography

03 Semester Credits

Geographical study of cities and their demographics. Emphasizes area aspects of urban centers. Arrangements of cities and their internal patterns, including human behavior and impact of natural resources.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

UST-1120 History of Cleveland

03 Semester Credits

Development of Cleveland from New England village to metropolitan area. Role of economic and technical change, immigration, reform, world war, demographics, labor unions, transportation and political leadership examined. Rise of suburban areas in post World War II, decline of central city and prospects for revival. Explains how each major era of the city shaped the present.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

UST-1800 Special Topics in Urban Studies

1-3 Semester Credits

UST-1820 Independent Study in Urban Studies

1-3 Semester Credits

UST-2020 Urban Cultures

03 Semester Credits

Examination of cultural diversity within urban populations. Special emphasis on interaction of groups and value systems.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): ANTH-1010 Cultural Anthropology, or SOC-1010 Introductory Sociology, or UST-1010 Introduction to Urban Studies.

UST-2070 Urban Politics

03 Semester Credits

Study of variety of problems, politics, and public policies related to American cities. Analysis of central cities, suburbs, and metropolitan areas. Emphasis placed on efforts to make cities function more efficiently, and to improve quality of life of inhabitants.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): POL-1010 American National Government, or UST-1010 Introduction to Urban Studies.

UST-2640 American Urban History

03 Semester Credits

Growth of American city from early period to megalopolitan era. Emphasis on development of urban economy, historical functioning of political system and physical development. Includes urban/suburban and majority/minority issues.

Lecture 03 hours. Laboratory 00 hours.

Prerequisite(s): UST-1010 Introduction to Urban Studies; or HIST-1520 United States History Since 1877; or HIST-1720 African-American History 1877 To Present; or departmental approval.

UST-2800 Special Advanced Topics in Urban Studies

1-3 Semester Credits

UST-2820 Independent Advanced Study in Urban Studies

1-3 Semester Credits

Veterinary Technology - VT

VT-1300 Veterinary Terminology and Law

02 Semester Credits

Terminology and abbreviations commonly used by veterinary profession and animal owners. Emphasis on common colloquialisms, word construction, and word analysis. Overview of federal, state and local laws and agencies which currently impact veterinary medicine. Discussion of technician's role in malpractice litigation. Review of malpractice cases and ethical dilemmas common in veterinary medicine today.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): Departmental approval.

VT-1320 Veterinary Office Applications

03 Semester Credits

Overview of veterinary practice management including veterinary medical record keeping, marketing, facility design, staff responsibilities, interoffice communications and public relation techniques. Automated veterinary office processing and record-keeping. Computer hardware and software commonly found in small to mid-sized veterinary practices described along with office procedures and work flow.

Lecture 02 hours. Laboratory 02 hours.

Prerequisite(s): Departmental approval.

VT-1401 Veterinary Science I

04 Semester Credits

Recognition of physical and behavioral characteristics of commonly encountered dog and cat breeds. Introduction to basic companion animal and laboratory animal behavior, husbandry and nutrition. Laboratory focuses on non-invasive clinical management techniques including physical examination, grooming and other in-office procedures.

Lecture 03 hours. Laboratory 02 hours.

Prerequisite(s): Departmental approval: admission to program.

VT-1450 Veterinary Radiography

02 Semester Credits

Introduction to X-Radiation production, utilization and maintenance of radiographic equipment, techniques of exposure and development of diagnostic radiographs, radiographic positioning and special contrast procedures. Field trips included for large animal studies.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): VT-1300 Veterinary Terminology and Law; VT-1401 Veterinary Science I; and BIO-1410 Anatomy and Physiology of Domestic Animals I.

VT-1500 Veterinary Science II

04 Semester Credits

Recognition of physical and behavioral characteristics of commonly encountered breeds of horses, cattle, sheep and pigs. Basic food animal and equine behavior, husbandry and nutrition. Laboratory focuses on restraint, handling and performance of common veterinary procedures used as part of large animal management and/or treatment of common clinical conditions. Field trips included in laboratory portion of course.

Lecture 03 hours. Laboratory 02 hours.

Prerequisite(s): VT-1401 Veterinary Science I; VT-1300 Veterinary Terminology and Law; and BIO-1420 Anatomy and Physiology of Domestic Animals II, or concurrent enrollment.

VT-1520 Veterinary Parasitology

02 Semester Credits

Study of identification techniques, nomenclature, life cycles, epidemiology and control of internal and external parasites of small animals, horses and cattle.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): VT-1300 Veterinary Terminology and Law; BIO-1420 Anatomy and Physiology of Domestic Animals II, or concurrent enrollment; and departmental approval: admission to program.

VT-1600 Veterinary Surgical Nursing and Assisting

03 Semester Credits

Basic fundamentals of routine veterinary surgery including instrumentation, aseptic technique, fluid therapy, wound healing, specialized procedures and general nursing care. Fundamentals of electrocardiography including operation of electrocardiograph, origin of ECG tracing and recognition of common cardiac arrhythmias.

Lecture 01 hour. Laboratory 04 hours.

Prerequisite(s): VT-1401 Veterinary Science I; and BIO-1420 Anatomy and Physiology of Domestic Animals II, or concurrent enrollment.

VT-2300 Pharmacology for Veterinary Technicians

02 Semester Credits

Introduction to veterinary pharmacology including common drug terminology, classifications and usages of drugs, dosage calculations, methods of drug administration, side effects and contraindications.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): VT-1401 Veterinary Science I; and BIO-1420 Anatomy and Physiology of Domestic Animals II.

VT-2401 Veterinary Pathology I

02 Semester Credits

Veterinary medical laboratory procedures including complete blood counts, coagulation tests, and clinical chemistries performed commonly in veterinary practices.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): BIO-1420 Anatomy and Physiology of Domestic Animals II; and BIO-2500 Microbiology, or concurrent enrollment.

VT-2411 Veterinary Pathology II

02 Semester Credits

Veterinary medical laboratory procedures performed commonly in veterinary practices including urinalysis, veterinary microbiologic techniques, cytology, bone marrow evaluation, serology and necropsy. Field trips included.

Lecture 01 hour. Laboratory 03 hours.

Prerequisite(s): VT-2401 Veterinary Pathology I.

VT-2500 Small Animal Health and Disease

02 Semester Credits

Physiological systems approach to most frequently encountered diseases and metabolic problems of dogs and cats including disease names, definition and history, animals at risk, causes and signs, diagnosis, treatment and prevention.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): VT-2300 Pharmacology for Veterinary Technicians.

VT-2510 Large Animal Health and Disease

02 Semester Credits

Study of most frequently encountered diseases and clinical problems of horses, cows, sheep and swine including disease names, definition and history, animals at risk, causes and signs, treatment and prevention.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): VT-2300 Pharmacology for Veterinary Technicians.

VT-2600 Anesthesiology, Emergency Techniques and Dentistry

03 Semester Credits

Fundamentals of veterinary anesthesiology, emergency medicine and veterinary dentistry. Students learn how to administer and monitor anesthesia, assist with cardiopulmonary resuscitation and perform routine veterinary dental prophylactic techniques.

Lecture 02 hours. Laboratory 03 hours.

Prerequisite(s): VT-1600 Veterinary Surgical Nursing and Assisting; VT-2300 Pharmacology for Veterinary Technicians; and VT-1500 Veterinary Science II.

VT-2700 Avian and Exotic Animal Medicine

02 Semester Credits

Introduction to avian and exotic animal husbandry, physical examination, clinical procedures and common clinical conditions. Field trips included.

Lecture 02 hours. Laboratory 00 hours.

Prerequisite(s): VT-1520 Veterinary Parasitology, and BIO-2500 Microbiology.

VT-2800 Special Advanced Topics in Veterinary Technology

1-3 Semester Credits

VT-2820 Independent Advanced Study/Research in Veterinary Technology

1-3 Semester Credits

VT-2851 Veterinary Practicum and Seminar I

01 Semester Credit

Includes practicum and on-campus seminar. In practicum, students observe and assist with common procedures in clinical settings. Clinical settings include small animal practice, animal population control facility, laboratory animal facility, equine practice, food animal practice/facility and exotic animal practice/facility. In seminar, students discuss individual clinical situations occurring during practicum experience, and study technician's role in euthanasia of an animal including methodology, mental preparation and understanding of the grieving owner.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 3-1/2 hrs/week.

Seminar: 1/2 hour per week.

Prerequisite(s): VT-1500 Veterinary Science II.

VT-2860 Veterinary Practicum and Seminar II

02 Semester Credits

Capstone course in Veterinary Technology. Includes practicum and on-campus seminar. In practicum, students observe and assist with common procedures in clinical settings. Clinical settings include small animal practice, animal population control facility, laboratory animal facility, equine practice, food animal practice/facility and exotic animal practice/facility. In seminar, students discuss individual clinical situations occurring during the veterinary practicum experience, study the technician's role in pediatrics and first aid, and prepare to search for employment.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 7 hours per week.

Seminar: 1 hour per week.

Prerequisite(s): VT-2851 Veterinary Practicum and Seminar I.

VT-2940 Veterinary Field Experience

02 Semester Credits

Capstone course in Veterinary Technology. Clinical experience involving practice of techniques commonly used in veterinary medicine. Students assigned to two different types of veterinary facilities. Site options may include small animal practices, animal emergency clinics, referral practices, equine practices, mixed practices, food animal practices, laboratory animal facilities and the Cleveland Metroparks Zoo.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Field experience: 24 hrs/week.

Prerequisite(s): VT-2860 Veterinary Practicum and Seminar II; and VT-2600 Anesthesiology, Emergency Techniques and Dentistry.

Women's Studies - WST

WST-1510 Introduction to Women's Studies

03 Semester Credits

Introduction to field of women's studies, which transcends traditional disciplinary boundaries. Analysis of gender's role in shaping human societies of past and present: their history and experiences, their expression through arts and literature, philosophy of feminism, and comparative conditions of women in diverse cultures.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

WST-1520 Women's Films

03 Semester Credits

Introduction to genre of women's films through study of classic and contemporary depictions. Use of film analysis in theme, character, plot, dramatic conflict, photography, sound, light, editing, and acting.

Lecture 03 hours. Laboratory 00 hours. Prerequisite(s): None.

WST-1820 Independent Study/Research in Women's Studies

1-3 Semester Credits

WST-2800 Special Advanced Topics in Women's Studies

1-3 Semester Credits

WST-2850 Practicum in Women's Studies

03 Semester Credits

Practicum includes weekly seminar plus placement in non-profit or profit organization supportive of women and family interests, mentorship relationship with a leader in business, government and social service, or employment in an approved facility. Note: Course may not transfer.

Lecture 00 hours. Laboratory 00 hours.

Other Required Hours: Practicum: 07 hours per week.

Seminar: 02 hours per week.

Prerequisite(s): WST-1510 Introduction to Women's Studies.