

Faculty Innovation Grant Awardees (FIG)

Purpose of FIG: Provide support for faculty to design and implement new tools, resources, or techniques in the classroom (or virtual classroom) to enhance instruction and increase student learning outcomes.

FISCAL YEAR 2025-26

- **Alex Gale, Automotive Technology-Western & Westshore Campuses:** The ConsuLab EM-200-19 Cutaway Starting System Trainer for the Automotive Technology program provides students with a safe, interactive tool to explore starting system components, observe internal operation, and practice diagnostic testing.
- **Cassandra Sweeney-English-Eastern Campus:** This project represents innovation in climate education by leveraging immersive virtual reality (VR) technology to bridge the gap between abstract data and lived experience.
- **Nicholas Prokup-ESL-Metropolitan:** The purpose of this project is to create high quality videos that focus on providing comprehensible input to ESL students, and which can focus on the particular levels and interests of Tri-C's ESL students and prospective students.
- **Silvana Hrepic-Spanish-Eastern:** This project is motivated by a desire to improve the development and outcomes of interpersonal communication skills of students in fully asynchronous beginning-level Spanish classes. The project aims to implement My Conversation Trainer in order to improve the students' conversational skills assessment results, as measured in each chapter, and through the final semester evaluations and Course-Level Assessment reports.
- **Issam Boukabou-Elec Engr Tech- Metropolitan/Eastern:** The pilot will run in two BS courses: MET 1340 Introduction to Industry 4.0 and Vision Systems and MET 1640 Robotics and Programmable Logic Controllers in Process Automation, with planned scale up as scheduling allows to MET 2460 Applied Programmable Logic Controllers and Mechatronic Systems in the AS/BS plan of study.
- **Michael Piero/Garrett Munro-English-Westshore:** This collaborative project between Dr. Mike Piero and Instructional Design Specialist Garrett Munro proposes the innovative design of a self-contained, replayable tabletop role-playing game learning module designed primarily for English College Composition courses to teach MLA format, citation integration, and academic honesty with widespread applications across a variety of academic disciplines and First-Year Experience courses.

- **Matthew Crowley-Information Technology-Eastern:** This proposal seeks to enhance Tri-C's capacity and ability for applied AI teaching and research across multiple disciplines at the college. This request aims to use grant money to purchase two high-performance graphics cards for an AI workstation that will reside in the AI and Cyber Defense Center Lab at the Western Campus, and the system will be made available for use by students and faculty.
- **Engy Shawky-Radiography-Western:** Integrating the use of the Apple 13-inch iPad Pro during radiographic classes and labs will ensure a more efficient workflow, improve the timeliness of performance feedback and give students and instructors access to teaching tools not currently available. The ultimate result is better trained students who will become radiologic technologists providing a higher level of patient care.
- **Jim Funai-Plant Science/Land Tech-Eastern:** This project will allow us to maintain a "library" of advanced tree climbing and working tools that we cannot currently provide to advanced students. This will allow them to explore advanced techniques, tools, and develop skills that go far beyond what we are able to currently teach. We will utilize badges in Brightspace to gamify the skills building and help students attempt the new techniques.
- **Ted Schafer – Automotive Technology-Western/Westshore:** With the increasing popularity of All Wheel Drive and Four-Wheel Drive vehicles, it is critical that students (and educators) be able to integrate operational and diagnostic skills into lecture and subsequent lab activities. This ensures that students entering the workforce can not only be industry credentialed in this said area.
- **Sarah Arrington & John Gallagher-Respiratory Care-Western:** This project is aimed at creating a pre-program assessment and remediation program for all students admitted into one of the health professions programs. The overarching goal of this initiative is to promote student confidence, improve retention and success rates, and support equitable preparation for all students entering the health professions.
- **Punya Basnayaka-Mechanical Engr Tech-Metropolitan:** This project aims to develop and implement hands-on educational kits that combine Foundry-in-a-Box metal casting tools with 3D printed mold-making to teach fundamental concepts in materials engineering, manufacturing processes, and sustainable design.

FISCAL YEAR 2024-25

- **Teressa Taggart-Nuclear Medicine-Western:** As part of the simulation laboratory in the HTC 273 classroom for nuclear medicine, we have 6 workstations that

students practice using radioactivity. While the activity amount is small, it is still in the student's interest to minimize their exposure to such activity. Installing lead bricks between workstations will reduce the exposure rate while the students are learning efficient laboratory technique.

- **Kathryn Stuhler- Diagnostic Medical Sonography-Western:** Pre-requisite- DMS students will be able to better understand image orientation and notch placement with the help of mini transducer models that can fully manipulate simulating what is done during ultrasound. Program DMS students will also be able to practice transducer manipulation with full size practice probes allowing for quicker understanding and improvement of practical application. This will allow for more time to be spent learning protocols and anatomy during instructional laboratory time, and less time learning how to hold and transition the ultrasound transducer.
- **Michael Longrich-Automotive Technology-Western:** The purchase of an Autel MS919 scan tool would read computer information, along with an oscilloscope to read electrical signals on vehicle sensors and actuators. This scan tool is present in about 80% of vehicle repair shops due to its lower cost than most scanners. Most students are very likely to encounter this tool working in the field.
- **Hayley McGuirk-Art-Metropolitan:** Though most frequently allied with fields of medicine and STEM, the innovations of Virtual Reality can offer our Creative Arts students an invaluable breadth of experiential learning opportunities which promote critical thinking, cultural analysis, and increased digital literacy. Advocating for the acquisition of eight VR Meta 3 Headsets and digital "Wander" applications, this proposal will outline the value of investing in VR as an educational resource for our Tri-C students studying the Arts and Humanities. The short-term and long-term implications of this project will allow our students the unparalleled opportunity to immerse themselves in the history of human culture and critically engage with artworks, architecture, and aesthetic environments through the lens of modern technology.
- **Ted Schafer-Automotive Technology-Western/Westshore:** The automotive technology department's relationship with General Motors continues to benefit our students and the department overall as we have received over ten late model donation vehicles over the past two years. As we continue to receive these donations vehicles to support curriculum, the department needs to purchase certain pieces of diagnostic equipment to support these vehicles systems. The equipment allows us to credential students in a variety of areas as they move through the coursework in their respective courses of study.
- **Emily Weglian-Anthropology-Western:** The proceeds from this grant will be used to purchase materials to replicate the Biological Anthropology Collection founded in

2010 at the Western Campus at the Metropolitan Campus. The college has committed to hiring a new Tenure Track position in Anthropology that will be housed at Metropolitan Campus. Having a second Biological Anthropology Skeletal Collection would allow the new faculty member to teach ANTH 1210 Human Evolution in person at Metropolitan Campus, which will make the course more accessible to more students.

- **Judith C. Alleb-Western:** This project seeks to close the gap between students' "book learning" and their experience as practitioners of their business discipline. Providing faculty with classroom simulations that provide immersive and engaging experiences can energize student engagement and enhance student success. This classroom simulation project will make classroom theory be practiced, practical, and "come alive" for students in Tri-C's business disciplines. These simulations will facilitate students' transitions from passive learners to active practitioners.

FISCAL YEAR 2022-23

- **Chris Faciana-Program Director, Sports & Exercise Studies & Adjunct Faculty, Exercise Science-Metropolitan:** The ability of the Swivl system to live stream and record videos for later use supports the college's priorities of equity, access, and success, especially for students learning remotely or those who cannot attend classes due to various circumstances. This provides students with a window into the physical classroom environment, so they'll have a better opportunity to stay on track with the course and feel more connected.
- **Jim Funai-Plant Science Technology-Metropolitan:** To take advantage of cutting-edge technology, the program will need to purchase some essential tree survey tools. Tree surveys require specific measurements captured by particular tools, which this grant will supply. Many cities are increasing their demand for tree surveys to improve their ability to manage urban forests. We can add this skills training to our PST 1380 Intro to Tree-care course, which will qualify our graduates for these careers.
- **Deniece Jukiewicz, Pamela Ngangana, Kathleen Paskert (Lab), Amy Schulte-Nursing; Evelyn Torres-Nursing-Metropolitan:** This technology introduces and implements a BP training system in the Associate Degree Nursing Program. The technology is a full-size left arm using a remote control, allowing instructors to maintain distance from the student and program settings and track cuff pressures to develop skills and decrease anxiety during practice and testing. Instructors can train and evaluate by setting programmable, palpable radial pulses, allowing students to use a stethoscope to auscultate all 5 Korotkoff sounds in the antecubital area. This promotes confidence and identification of theoretical knowledge.

- **Richard London-Biology- Metropolitan:** This project intends to provide microscopes at each of our 6 lab tables in MHCS 207 to interact with our computers and monitors, which our IT department is providing. This will deliver the latest information to our lab students in real-time while providing a supportive engaging environment.
- **Melanie Shearer- Medical Assisting- Metropolitan/Western:** Hand mannequins will replace student hands when learning how to perform venipuncture using veins found in the hand properly. Venipuncture of the hand is a delicate procedure that requires skills that can only be achieved with repetition. Multiple hand draws can be painful, especially when students are in the learning process. The mannequin will reduce minor injuries such as bruising and improve students' learning comfort levels.
- **Catherine Bloor- Nuclear Medicine-Western:** Nuclear Medicine Lead Shielding- In Nuclear Medicine, time, distance, and shield are imperative to maintain lower exposure to the faculty and the students.
- **Michael Longrich- Automotive Technology-Western:** Leak detection equipment is utilized in automotive services to detect leaks in air ducts, intake manifolds, exhaust systems, and evaporative emission systems. All our automotive students will know when and how to utilize this diagnostic tool.
- **Ted Schafer- Automotive Technology-Western:** As we begin to integrate fully electric vehicles into our automotive curriculum, these systems cannot operate for extended periods necessary to service them without an external power source as they rely on lower-capacity batteries on the low voltage side of the system. Performing battery learning procedures and programming requires a high-amperage external power source.
- **Clemens, Holly-Physical Education-Western:** The ability of the Swivl system to live stream and record videos for later use supports the college's priorities of equity, access, and success, especially for students learning remotely or those who cannot attend classes due to various circumstances. Swivl's live-streaming capability can allow students to observe mastery of the knowledge and skills gained in the course through various assignments and teaching project.
- **Terrence Kline-Veterinary Technology-Western:** Ultrasound is an essential modality in diagnostic imaging, and this unit is cutting-edge technology. It will give our students the best training that we can hope to provide, as well as give us a beneficial diagnostic tool for the maintenance of our dog and cat colony.

- Karen Goulandris-Early Childhood Education-Western:** Learning about inclusive classrooms is essential to the success of a student entering the field of education. Using CARA's Kit (Creating Adaptations for Routines and Activities) and the supplemental posters are valuable resources to help Tri-C students in responding to the aspect of experience plan writing assignments that ask them to "Describe any accommodations and modifications needed to support children's diverse developmental level as, including adaptations for materials or set up necessary for some children." Providing these resources for regular student access in the ECED lab will significantly benefit them as they gain consistent knowledge and information from the comprehensive information provided in the CARA's Kit and supplemental posters.
- Darrell Clemetson, Dominique DeSciscio and Ashley Kuzma-Respiratory Care-Western:** Respiratory care students will be able to learn, and perfect skills related to a valuable piece of equipment in the respiratory care field - the air compressor. These skills will set them up for graduation success and beyond.
- Amanda Hanley-Mathematics-Westshore:** By creating a comprehension Contemporary Math Workbook, students can save time, money, and headaches! – by successfully completing their MATH-1240 course. They will also learn note-taking and organizational skills while providing instructors with a tool to guide and support them in planning their lessons.
- Nachum Meres-Biology-Westshore:** This project aims to compile an affordable laboratory manual to accompany BIO 106L (Environment, Ecology and Evolution Laboratory) that would satisfy course objectives and outcomes. In addition to developing a student lab manual, a companion instruction and preparatory guide would be created to provide information to the course instructor and the laboratory technician assigned to the course.
- Michael Piero-English-Westshore:** Since video games are proven to be fertile space for cultural analysis and student engagement, this technology shall prove helpful in my existing ENG 101H Video Game Rhetorical Analysis unit and also expand the peer-to-peer interactions within that unit, looking at a game together in class (via projecting the game to classroom smart boards), and removing the need to install and open network ports for video games on classroom computers.