March 10, 2026

FACULTY OF ENGINEERING
MECHANICAL, AUTOMOTIVE & MATERIALS ENGINEERING

NOTICE RE PROJECTED GRADUATE ASSISTANT (GA) POSITIONS
FOR SUMMER 2026

In accordance with Article 12:01 of the CUPE 4580 Collective Agreement, the Department of Mechanical, Automotive & Materials Engineering invites applications for the following projected GA positions for the Summer 2026 term. Projected positions and hours are subject to change and contingent on sufficient enrolment and final budgetary approval.

Expected GA duties

Projected duties are in accordance with article 15:03 Assistants cannot commence their GA/TA duties until email confirmation of the approval of their Job Offer is received from Human Resources (email titled "Authorization to Commence GA/TA Duties", article 13:05).

GA employees are expected to make themselves available to report for all assigned duties, **both in-person/on-campus and remote/online duties**. Most classes across the University are held face-to-face on campus, and even online classes may require on-campus face-to-face duties.

List of courses that may utilize Graduate Assistants for Summer 2026 which will run from May 4, 2026 – August 31, 2026:
Students CANNOT serve as the GA for a course they are also registered in.

Course # and Name	Course Description	R=Required / P=Preferred Skills	Projected # of GAs
AUTO-8025-01/ Sensors and Controls for Evs	Connected, autonomous, secure, and electric vehicles require an extensive suite of sensors, software, and controls for safe, efficient, and reliable operation. This course examines advanced driver assist systems, SAE J1939 CAN Bus communications, high voltage interlock loop (HVIL) safety systems, sensors, optics & lighting, image representation, feature extraction, image analysis, image classification, 3D imaging techniques, GPS, radar, lidar 3D range imaging, intelligent and night vision, sensor integration and fusion.		0.5
AUTO-8060-01/ Powertrain Systems	This course will provide an in-depth examination of vehicle electric drive systems including e-motors and motor controllers operating at different voltage levels, various types of batteries, (cell formats and chemistries and new concepts such as solid state batteries) and performance metrics including cruise and acceleration, range calculations and influences on each component using representative software to model E-motor materials, magnet design, gearboxes, EV powertrain component manufacturing processes, on-board safety and safety in energy storage for EV and hydrogen as well as component manufacturing, will also be discussed.	R - GA must know Ansys Motor CAD software	0.5
AUTO-8070-01/ Manufacturing and Robotics Fundamentals	This course introduces the basics of robotically assisted manufacturing by examining the modeling, design, planning, and control of robot and manufacturing systems. Global robotic specifications (GRS) will be introduced at a high level. In addition, students will learn to develop multi robots work-cell construction as an introduction to dexterous manipulation (DM) using an advanced DM work-cell design.		0.5
ELEC-4100-60/ Industrial Control Systems	This course provides the fundamentals of industrial Control Systems (ICS). The subject covers in-depth principles of Distributed Control Systems (DCS), Supervisory Control and Data Acquisition (SCADA), and Programmable Logic Controllers (PLC). Students will undertake project work to design an industrial process automation solution.	P - Previously GA'd the course	0.5
ELEC-4490-60/ Sensors and Visions Systems	Basics of sensors and transducers; sensor characteristics and applications; fundamentals of pressure, temperature, displacement and position sensors; accelerometer physics, strain gauges, and torque sensors; machine vision; image processing, image enhancement, edge and corner detectors; image segmentation techniques; image feature extraction and matching; colour models and processing; object recognition and classification; discussion on camera parameters and calibration; stereo vision, 3D range imaging techniques.	P - Previously taken or GA'd the course	0.5

Course # and Name	Course Description	R=Required / P=Preferred Skills	Projected # of GAs
GENG-1101-01/ Engineering 1	Overview of the engineering profession: fields, career development, sustainability, health and safety, relation to society, business and entrepreneurship, ethics, equity, and Canada's Truth and Reconciliation process. Academic integrity, strategies for university success, academic regulations, engineering-related extracurricular activities. Effective oral and written technical communication: informative and persuasive presentations; resumes and job search communications; technical writing and formatting; information gathering and analysis; research documentation and referencing; the use of visual tools such as graphs, figures, and tables; eportfolios; and technical reports.	P - Previously taken/GA'd the course	0.5
GENG-3201-01/ Engineering Design III	A project-based learning experience where students are exposed to a series of open-ended design projects that will develop both technical and professional skills. The emphasis will be on the engineering design process, which consists of: problem formulation, functional requirements and constraints, conceptual design through CAD, selection of design, communication of the design solution, prototype construction, testing, iteration, and reporting. Includes group work to develop personal, teamwork, leadership, and task completion skills as part of the design process.		0.5
GENG-4210-01/ Engineering & Society	The technology-society relationship in a historical context; the nature of technological change and its consequences; the engineer's role in the control of technology and sustainable development; the responsibility of engineers for health and safety in the workplace, including OHSA, WHMIS. The development of the engineering profession; professional registration and the code of ethics; the duties and responsibilities of engineers; the engineer and the law.	R - Familiarity with Canadian law and Ontario as well Professional Engineer licensing requirements. P - Previously taken or GA'd the course	4.5
GENG-4600-60/ Introduction to Robotics	This course is an introduction to robotics modeling, dynamics, and control of robotic manipulators and industrial motion control. Students study Kinematics and Dynamics of Machines and will be exposed to principles of the geometry of motion, Uniform and non-uniform motion, linkage, gears, cams. Students will be exposed to the operation, programming and applications of a typical industrial robot using the actual and simulation tools. Hands-on activities will include manual teach programming, testing with simulation software and programming of advance movements.	P - Previously taken or GA'd the course	0.5
GENG-4800-60/ Capstone Mechatronics / Biomedical	Team based design project satisfying the "CAPSTONE DESIGN PROJECT REQUIREMENTS", available from the Bachelor of Engineering, Mechatronics Stream Engineering. Gives the student significant design experience and builds on the knowledge and skills acquired in earlier course work. This course provides an exposure to teamwork so as to emulate a typical professional design environment. Computers are to be used both in the execution of the design methodology and the management of the design project	P - Previously GA'd the course preferred	0.5
GENG-8050-40/ Data Analytics and Decision Making (online)	This course introduces fundamental concepts of data analytics and their application in decision making. The emphasis is on the utilization of practical analytics tools in a complex engineering management environment. Topics covered may include: development and validation of decision-making models, data-based decisionmaking skills, decision variables and constraints identification, sensitivity analysis, optimization and predictive analysis. Students in this class will learn how to make evidence-based management decisions and develop recommendations based on data.	P - Previously GA'd the course preferred	0.5
GENG-8050-41/ Data Analytics and Decision Making	This course introduces fundamental concepts of data analytics and their application in decision making. The emphasis is on the utilization of practical analytics tools in a complex engineering management environment. Topics covered may include: development and validation of decision-making models, data-based decisionmaking skills, decision variables and constraints identification, sensitivity analysis, optimization and predictive analysis. Students in this class will learn how to make evidence-based management decisions and develop recommendations based on data.	P - Previously GA'd the course preferred	0.5

Course # and Name	Course Description	R=Required / P=Preferred Skills	Projected # of GAs
INDE-3020-01/ Health, Safety and HF	Fundamentals of manufacturing safety and health are studied to provide manufacturing engineers with the knowledge to effectively incorporate design solutions for health and safety considerations in the workplace. Human capabilities and limitations in the industrial workplace are also assessed and taken into account when implementing design solutions. Topics will include: machine guards, confined space protocol, accident losses, prevention, liabilities and the Workplace Safety and Insurance Board by-laws, the Ontario Occupational Safety and Health Act, and related standards and codes. Also addressed are ergonomic issues such as the design of the workplace and environment, design of display and control systems and human factors in expanding technology.	P - Previously taken and passed Health, Safety and Human Factors (0691-302) course or equivelent	1
INDE-3110-01/ CAD/CAM	This courses focuses on CAD/CAM from theory to practice. Basic and generic design principles and tools are introduced and the course material is complemented with significant hands on practice and engineering applications. Students will learn modelling strategies, and advanced computer aided engineering design, analysis, manufacturing and measurement tools. Topics include: Solid modelling, GD & T, tolerance stack ups, assembly modelling and mechanism analysis, process planning, CNC code generation, tool path optimization and principles of measurement.	R - knowledge of G code and very good to excellent CAD skills (ideally multiple software packages) P - CAM tools (preferably Mastercam, but other packages OK) and some robotics programming/ knowledge of robotics simulation packages (ideally RoboDK)	1
INDE-3270-01/ Product Quality and Reliability	Impact of quality on manufacturing processes and product design. Methods and theories of statistical process control. Control charts for attributes and for variables. Process capability analysis and six-sigma method. Acceptance sampling and sampling standards. Reliability engineering and various failure models. Failure modes and effects analysis (FMEA). Taguchi method. Product design and quality function deployment (QFD). ISO 9000/ QS 9000 standards. Total Quality Management (TQM) method.	R - knowledge of statistics and experience with Quality issues required	1
INDE-3910-01/ Supply Chain Eng	This course explores the basic concepts of managing the flow of materials in a typical enterprise supply chain. This includes the design and operation of manufacturing and warehousing facilities. Students will examine a complete overview of material and information flow, from internal and external suppliers, to and from the enterprise. Topics covered include: basic elements of the supply chain; planning and managing inventories in supply chains; just-in-time; enterprise resource planning; demand and aggregate planning; the analysis of logistics capabilities and transportation issues; and interrelationships among customer service. The impact of e-commerce on supply chain management is also included. The students have the opportunity to explore and use SAP and other software packages.	R - Must have Knowledge of Operational Research and supply chain management, familiarity with Excel Solver and one optimization software (CPLEX or Gurobi). P - Previously taken or GA'd this course	1
INDE-4000-01/ IE senior capstone design	Student teams, supervised by faculty, undertake a significant design project, which integrates mathematics, basic sciences, engineering sciences and complementary studies in making informed, thoughtful and creative decisions in devising a product, system, component, or process to meet specified needs. It is a creative open-ended and generative activity often iterative and multidisciplinary, subject to constraints which may be governed by corporate standards or applicable legislation to varying degrees depending upon the project. These constraints may relate to economic, health, safety, environmental, social or other pertinent factors. Course requirements include seminars, group meetings, oral presentations, and written reports. Faculty advisors and industrial preceptors will advise project groups and evaluate the progress and results of the design projects.	R - graduated from a Canadian Engineering program	0.5
INDE-4120-01/ Operations Research II	Probabilistic O.R. models. Markov chains and their properties; continuous-time Markov chains. Queuing theory; the role of Exponential and Poisson distributions. Applications of queuing theory in production systems. Markovian decision processes. Reliability. Renewal Theory. Use of computer software programs to solve optimization problems in queues and Markov Processes.	R - Must have knowledge in probabilistic operations research (Markov chains and Queuing theory) and should be comfortable with the software LINGO and Excel solver. P - Previously taken or GA'd the course.	0.5

Course # and Name	Course Description	R=Required / P=Preferred Skills	Projected # of GAs
INDE-4350-01/ DOE Techniques for Manufacturing	Use of designed experiments (DOE) in engineering product and process design processes. Experiments involving one factor; ANOVA; fixed, random, and mixed models; randomized blocks, Latin squares, and incomplete block designs. Factorial designs. Fractional designs. The Taguchi method and robust product/process design. Emphasis is put on industrial applications of various designs.	P - Strong mathematical background and prior experience in Design of Experiments and MiniTab software preferred.	0.5
INDE-8420-01/ Supply Chain Management and Logistics	This course covers the major issues associated with the management of Supply Chain and Logistics, covering both technical and managerial issues with emphasis on the analytical decision support methods and tools. Topics include supply chain network design, inventory models and theories, transportation and logistics planning, outsourcing and pricing, and case study.	R - Must have Knowledge of Operational Research and supply chain management, familiarity with Excel Solver and one optimization software (CPLEX or Gurobi). P - Previously taken or GA'd this course	0.5
INDE-8900-22/MECH-8290-17 Additive Manufacturing	3D Printing, or additive manufacturing (AM), has captured the world's imagination. Complex component designs in the aerospace and medical industries, jewelry designs, fashion, archeological artifact reconstructions have all shown to be exciting growth areas for AM solutions. However, it is perceived that intricate designs can be 'done in one' using a one-button fabrication process, but the reality is not so optimistic. This course will introduce you to the AM process family, the workflow, materials, and system infrastructure requirements. Design for Additive Manufacturing and process planning elements will be covered. This course is designed to introduce several AM processes, providing a basic scientific understanding of the possibilities and limitations. Students will be exposed to several slicer software tools. Students should have CAD skills.	R - CAD skills, CURA / Slicer software skills, powder bed fusion & stereolithography experience, GD & T & some machining / manufacturing knowledge required. P - Knowledge of Insight / Prusa slicer software skills preferred. P - Previously taken or GA'd the course	0.5
MATL-8890-06/MECH-8290-06 Failure Analysis	Failure analysis consists of the investigation of the physical features and rationalization of causes of engineering component failure. A failure analysis is often performed with the general objective to avoid recurrence of similar engineering failures. Brittle fracture and fracture under alternating loading conditions (fatigue) are usually the most serious type of failure and will be studied in this course in detail. Understanding of why a component failed involves the use of engineering principles and analytical tools. For this reason, the course starts with an introduction to the fundamental equations of fracture mechanics and continues with explanation of failure mechanisms and concludes with methods of selecting materials that are strong and tough.	P - Previously taken or GA'd the course.	1
MATL-8890-22/MECH-8290-82 Corrosion & Preventions	The course is to provide graduate students in Faculty of Engineering with a comprehensive understanding of corrosion principles and prevention in general and automobile as example. The course firstly covers introduction to corrosion principals, forms of corrosion, corrosion properties of materials, and corrosion prevention. Special emphasis is also placed on topics about build-up of the corrosive environment, corrosion of special areas in motor vehicles, and corrosion prevention through engineering design and coating processes. Students will be able to appreciate automotive corrosion mechanism, evaluate corrosion properties of materials and coatings, and particularly conduct a 'good' structure design for automotive corrosion prevention. Coating technologies (printing and plating) will be presented for the purpose of battling the corrosion for automobile.	P - Previously taken or GA'd the course.	0.5
MECH-3215-01/ Mechanical Vibrations	Free, damped, and forced vibration of single and multi-degree of freedom systems with discrete masses. Exact and approximate methods of solution. Vibration isolation, vibration transducers, use of computers in vibration analysis. (Prerequisite: MECH-2210 and Semester 6 or higher standing.) (3 lecture, 2 tutorial hours a week.)	P - Previously taken this course or similar vibrations course preferred	2
MECH-3217-01/ Applied Thermodynamics	Ideal gas mixtures and psychrometrics. Reacting mixtures and combustion. Power cycles, refrigeration and heat pump cycles.	P - Previously taken or GA'd the course is preferred.	5
MECH-3220-01/ Fluid Mechanics II	Navier-Stokes equations and some exact solutions, external flows boundary layer over a flat plate, drag forces; turbulent flows in pipes and mixing length theory, flow measurement, compressible flows and introduction to potential flows.	R - Previously taken a course in Fluid Mechanics, Experience working in the lab, running experiments and equipment and good communication skills are required	5

Course # and Name	Course Description	R=Required / P=Preferred Skills	Projected # of GAs
MECH-3221-01/ Control Theory I	Control system concepts, linear modelling and analysis of response and stability of physical systems, complex variables and Laplace transforms, frequency, and transient response analysis and performance specifications. (Prerequisites: 62-215 and 62-216.) (3 lecture hours, 1 tutorial hour a week.)	R - Familiarity with electrical, mechanical, fluid dynamics and kinematics modeling; Familiarity with control theory concepts (state-space systems, Laplace transform, bode plots, PID controllers, stability, accuracy, vibration), familiarity with MATLAB and SIMULIN required. P - Previously taken or GA's this course or similar course preferred	3.5
MECH-3228-01/ Heat Transfer	Introduction to the three heat transfer modes: conduction, convection, and radiation. Application of heat exchange equipment.	R - Proficiency with the three modes of heat transfer: conduction, convection, and radiation. Simulation software COMSOL Multiphysics will be used in this course. GAs must be comfortable using the simulation software. P - Previously taken or GA's the course is preferred.	5
MECH-3430-01/ Automotive Engineering Fundamentals	Overview of primary automotive systems. Engine types and configurations, combustion, emission control, vehicle performance. Powertrain, suspension, frame and chassis. Materials and fabrication issues. Engine and vehicle dissection laboratory. Identification of industry issues and trends.	R - Must have hands on experience with internal combustion engines, including their disassembly. Basic understanding and knowledge of all major systems in automotive engineering, including ICEs, electric propulsion, manual/automatic transmissions, steering, suspension, brakes, body, and chassis. P - Previously taken MECH-8030 or MECH-3430, or GA'd either course in the past. P - Previously taken or been a GA for the course is strong asset.	2
MECH-3670-01/ Aerospace Engineering Fundamentals	History of flight and aircraft evolution. Aircraft operating principles. Airfoil and wing aerodynamics. Aerospace propulsion systems (turbojets, turbofans, turboprops, and rockets). Lab on performance estimation and measurement for a turbojet engine. Aircraft design. Weight estimation. Aircraft systems. Aircraft materials and structures. Governance of aviation in North America. Design studies of aircraft or spacecraft and/or components thereof.	R - Experience in aerodynamics at the graduate level preferred; strong background in undergraduate aerodynamics and thermodynamics required.	2
MECH-3830-01/ Materials & Their Properties	The relationship of the engineering properties of materials to their atomic structure, bonding, crystal structure, imperfections and microstructure. The processing of materials to produce required structure and properties. Includes consideration of crystal structure determination, phase diagrams, diffusion, phase transformations, solidification, heat treatment and deformation. The laboratory is a term-long project designed to familiarize students with the use of materials-related equipment commonly found in industrial and research laboratories.	R – Engineering Materials background is essential. Knowledge of XRD, SEM analyses and revealing microstructures through metallography sample preparation are also required. P - Previously taken the course is preferred	1
MECH-4200-01/ Mechanical Capstone Design	Student design teams, operating within a "company" environment, utilize the broad range of their undergraduate experience in interdisciplinary projects selected to promote interaction between the mechanical, automotive, and materials programs. Design methodologies and team interaction simulate future professional practice. Project milestones include: a design proposal with cost analysis and scheduling, construction and commissioning of the designed appartus, and a final report and presentation having both global and detail completeness.	P - Previously taken or GA'd the course is preferred	2

Course # and Name	Course Description	R=Required / P=Preferred Skills	Projected # of GAs
MECH-4212-01/ Mechatronics	Review of electromechanical components. Practical application of microcontrollers in electromechanical systems. Use of infrared sensors, photoresistors, operational amplifiers, timers, servomotors, and analog/digital converters in mechatronics systems. A hands-on, laboratory-based course.	R - Familiar with sensors, actuators and microcontroller programming required. P - Previously taken or GA'd this course preferred	1
MECH-4240-06/MECH-4850 Welding Engineering	Design and qualification of arc welding procedures to met the requirements of the ASME Boiler and Pressure Vessel Code. Arc welding processes, weld discontinuities, mechanical and non-destructive testing. Welding metallurgy, base and filler metal classification. Control of hydrogen-assisted cracking, preheat and postweld heat treatment. Fabrication issues. Canadian and international welding codes.	P - Previously taken or GA'd this course preferred	0.5
MECH-4240-07/ Fundamentals of Electromechanical Systems	Firstly, this course will introduce fundamental topics such as three-phase power, electrical and magnetic circuits towards understanding electric machines. Thereafter, this course will introduce fundamental operating principles of various electric machine technologies such as DC motors, Asynchronous motors and Synchronous motors that are widely used in industrial, power/energy and automotive applications today. It will also discuss various electronics and controls needed to drive these motors to deliver varying torques, speeds and power. As a case study, the course will also establish a link between the motor and its design for electric vehicle propulsion to prepare the students for future. Finally, examples of motor designs existing in commercially available vehicles will be used to understand various design variations and their impact.	R - GA must know Ansys Motor CAD / Maxwell software P - Previously taken or GA'd the course is preferred	0.5
MECH-4240-08/MECH-4440-05 Electric Vehicle Battery Systems	This course introduces technologies, safety requirements, and manufacturing practices for electric batteries for automotive applications. Topics include: battery chemistry; electric vehicle energy needs and design; battery safety; codes, standards, and regulations; designing for safety and manufacturing; Battery manufacturing; Future Technologies; and the Electric Vehicle Industry.	R - GA must know Ansys Motor CAD / Maxwell software P - Previously taken or GA'd the course is preferred	0.5
MECH-4240-61/ Biomedical Instrumentation	This course will expose students to various principles, concepts, and instruments utilized in Biomedical Engineering Technology fields. This course will include topics such as medical device certification, Biomedical Engineer Technology certification, the analysis of various medical devices and the evolution of the Biomedical Engineering Technology industry. The students will be engaged in working on various assignments to develop an understanding of Biomedical instruments and certification related activities.	P - Previously taken or GA'd this course preferred	0.5
MECH-4255-01/ Environmental Effects/Control of Noise	Physical properties of sound and noise, measurement of noise, noise control, hearing characteristics and environmental effects of noise.	R - Must have taken the undergraduate noise course or equivalent graduate noise class. There is a lab component so experience with sound acquisition equipment is essential. P - Previously taken or GA'd this course is preferred.	1
MECH-4258-01/ Computational Fluid Dynamics - CFD	Fundamentals of finite volume methods for problem solving in fluid flow and heat transfer, using CFD computer programs.	R - experience with Linux and/or OpenFOAM P - previously taken or GA'd the course preferred	1
MECH-4259-01/ Computer Aided Engineering - CAE	Three-dimensional graphics; fundamentals of finite element methods for problem solving in heat transfer, solids, and trusses using finite element computer programs.	R - Proficient with CATIA software is essential. P - Previously taken or GA'd this course preferred	5

Course # and Name	Course Description	R=Required / P=Preferred Skills	Projected # of GAs
MECH-4440-07/ Fundamentals of Electromechanical Systems	Firstly, this course will introduce fundamental topics such as three-phase power, electrical and magnetic circuits towards understanding electric machines. Thereafter, this course will introduce fundamental operating principles of various electric machine technologies such as DC motors, Asynchronous motors and Synchronous motors that are widely used in industrial, power/energy and automotive applications today. It will also discuss various electronics and controls needed to drive these motors to deliver varying torques, speeds and power. As a case study, the course will also establish a link between the motor and its design for electric vehicle propulsion to prepare the students for future. Finally, examples of motor designs existing in commercially available vehicles will be used to understand various design variations and their impact.	R - GA must know Ansys Motor CAD / Maxwell software P - Previously taken or GA'd the course is preferred	0.5
MECH-4467-01/ Vehicle Thermal Management	A study of controlled passenger compartment environment, and automotive thermal management hardware: radiator, heater core, air-conditioning components. Topics include the thermal comfort model of occupants in a vehicle, determination of heating and cooling loads, the practical application of refrigeration in automotive air-conditioning followed by design of equipment and HVAC system, description and design of engine cooling system.	R - Extensive experience in programming with FlowMaster software and Substantial knowledge in Radiator and A/C design and analysis projects required. P - previously taken or GA'd the course preferred	1.5
MECH-4671-01/ Aerodynamics and Performance	Aerodynamics and Performance Analysis of aircraft configurations. Viscous and compressibility effects. Maneuvering loads and load factors; implications of maneuverability on thrust requirements. Aircraft stability and control.	R - Previously taken MECH-4671 with familiarity in Aircraft dynamics, equations of motion, modeling, and stability analysis, Familiarity with Fluid Mechanics, Aerodynamics concepts including subsonic incompressible flows, viscous flows, and boundary layers as well as working knowledge of Xfoil and AVL software by Mark Drela, and AeroConsole by Dr. Rahimi are required	0.5
MECH-4672-01/ Flight Dynamics and Control of Unmaned Arial Vehicles (UAV)	Flight Dynamics and Control of Unmanned Arial Vehicles (UAV) Flight dynamics modeling for fixed-wing and rotor aircraft. Low-Reynolds number considerations applicable to unmanned aerial vehicles (UAVs). Control theory and state-space control schemes. State-space controller design for UAVs. Lab(s) involving virtual and/or physical UAV model control.	R - Familiarity with aircraft and UAV dynamics and kinematics control concept, MATLAB and SIMULINK, estimation theory and filtering (Kalman Filter)	1
MECH-4820-01/MATL 8890-05 Ceramic Materials	Uses of traditional and advanced ceramics. Monolithic and composite ceramics. Comparison of ceramics with metals and alloys. Processing: raw material preparation, forming techniques, theory and practice of sintering, quality control. Properties: modulus of rupture, creep, corrosion, erosion, and electrical, magnetic and optical properties.	P - Previously taken or GA'd this course preferred	0.5
MECH-8240-01/ Applied Finite Element Analysis	This course focuses on the modeling aspects of the finite element method using three well known commercial Finite Element Analysis (FEA) software packages known as DYNA, IDEAS and ANSYS. A variety of stress analysis problems in two and three dimensions are studied and the accuracy of the simulations are assessed through comparison with available theoretical and experimental results. Both static and dynamic situations are covered. The students are expected to prepare a final report summarizing their work and an oral presentation	P - Previously taken or GA'd the course	1
MECH-8290-26/ Introduction to Nano Engineering	The course covers backgrounds, principles, manufacturing, implementation, and applications of nanoengineering. The students will review the fundamentals of micro/nano-electromechanical devices, micro/nano-fabrication, nanoelectronics, nanomaterials, nanostructures, nanofluidics, and emerging applications of nanoengineering.	R-knowledge in micro/nano systems and skilled in COMSOL simulation, P - Previously taken or GA'd the course	0.5
MECH-8290-28/ Advanced Thermodynamics	This course develops a rigorous foundation in advanced engineering thermodynamics, beginning with a critical re-examination of thermodynamic variables, fundamental relations, and the chemical potential, grounded by an introduction to their statistical mechanical origins. The core of the course focuses on phase equilibrium, thermodynamic stability, and classical nucleation theory, supported by real-fluid equations of state and departure function methods. The course concludes with chemical equilibrium in reacting systems and computational thermodynamics using Cantera. Students will leave equipped to analyze non-ideal, multiphase, and reacting systems beyond	R - At minimum, equivalent to 90%+ in undergraduate thermodynamics courses. P - Strongly prefer previously taken and/or GA'ed course in Advanced Thermodynamics at the graduate level, either classical or statistical thermodynamics is acceptable	0.5

Course # and Name	Course Description	R=Required / P=Preferred Skills	Projected # of GAs
	the scope of standard property tables and ideal gas assumptions.		
TRON-4035-01/ Computer Integrated Manufacturing (CIM) and Flexible Manufacturing (replaces INDE-4310)	This course provides an in-depth exploration of the integration of computer technologies in manufacturing processes, emphasizing flexibility and adaptability in modern industrial settings. The course introduces all the major elements in an enterprise including product design, manufacturing production, operational control systems, and their integration using information technology. Students will be equipped to contribute to the design, implementation, and optimization of manufacturing systems, fostering adaptability and efficiency in a rapidly evolving industrial landscape. This course is one of the four elective courses introduced in the fourth year for students in the area of specialization of Intelligent Manufacturing	P - Previously taken or GA'd the course	0.5

Refer to the timetable (www.uwindsor.ca/registrar/timetable-information) for class and exam hours and location.

Eligibility requirements:

Successful applicants must be available to attend at the specified time of the course/lab/exams as well as to report for all assigned duties, which may include both in-person/on-campus and remote/online duties.

GA appointments will be offered to qualified applicants in accordance with the CUPE4580 Collective Agreement.
To be eligible for employment as a Graduate Assistant in the term of support you must be a **registered full-time graduate student**:

- must be registered for the term of work at the time of hiring
- must maintain **full-time** registration throughout the term and must be in good standing in the degree program
- must be legally eligible to work in Canada on campus with a valid social insurance number. International students must hold a valid study permit and meet all IRCC regulations to accept employment on campus.

GA appointments cannot exceed **140 hours total for the Summer 2026 term period May 4, 2026 – August 31, 2026** Refer to Articles 13, 14, and 15 of the CUPE 4580 Collective Agreement for eligibility details.

Note: graduate students who have received a Graduate Assistantship Offer ("*An offer of employment as a Graduate Assistant with a commitment of future terms of support under Article 14:01 (a) and (b).")* **must apply each term** until they have received all terms of support specified under Article 14:01 (a) or 14:01 (b).

Refer to Article 14 of the CUPE 4580 Collective Agreement for details and eligibility. Failure to meet the eligibility conditions in the CUPE 4580 Collective Agreement will result in the forfeiture of the term(s) of support.

> **Article 14:02**:*" Financial support, as outlined in 14:01, shall continue, if the Graduate Assistant:*
> *a) maintains full-time registration in good standing in the degree program; and*
> *b) applies for posted positions; and*
> *c) is satisfactorily performing the duties required.*
> *Failure to meet these eligibility conditions will result in the forfeiture of the term(s) of support."*

Online applications, submitted through Qualtrics link https://uwindsor.ca1.qualtrics.com/jfe/form/SV_ahDT02Rxeekeid8

Deadline for completing the online application – 8:30am – Monday, March 23, 2026

The university is committed to equity and supports diversity in its teaching, learning, and work environments. In pursuit of the University's Employment Equity Plan, members from the designated groups (Women, Aboriginal Peoples, Visible Minorities, Persons with Disabilities, and Sexual Minorities) are encouraged to apply and to self-identify.

If you need an accommodation for any part of the application and hiring process, please notify the Recruitment & Workforce Coordinator (employment@uwindsor.ca). Should you require further information on accommodation, please visit the website of the Office of Human Rights, Conflict Resolution and Mediation (OHCRM).

Date posted: March 10, 2026 also found on our website at: https://www.uwindsor.ca/engineering/mame/429/Graduate_Asisstanships