Engineering
University of Windsor

Mechanical, Automotive, & Materials Engineering
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Call for Instructors for the Master of Mechanical Engineering (Automotive Option) Winter 2026

The Faculty of Engineering in collaboration with the Mechanical, Automotive, and Materials Engineering Department *at the University of Windsor* is currently seeking instructors to teach in the Master of Mechanical Engineering (Automotive Option) for the Winter 2026 term.

Winter, 2026

Contract Dates:	December 22, 2025 – April 30, 2026
Class Dates:	January 5, 2026 – April 6, 2026
Make up Dates:	April 6 (for April 3 classes), 2026
Exam Period:	April 9, 2026 – April 20, 2026
Alternative Exam Day:	April 21, 2026

Program Holidays:

Study Week	February 14, 2026 – February 22, 2026
Family Day	February 16, 2026
University Closed	February 20, 2026
Good Friday	April 3, 2026

We are currently seeking instructors for the following courses offered in Winter 2026.

Please be aware that the University of Windsor is planning for face-to-face delivery of courses in the Winter 2026 semester.

AUTO 8010-1: Mobility and Society

The course will provide insights into societal contexts and issues related to road vehicle transportation, economics and the changes to society and infrastructure caused by the mass adoption of electric vehicles and ubiquitous charging systems. EDI and ID-related topics such as Canada's interactions with its Indigenous peoples and broader societal and cultural issues such as urbanization, demographics will be examined in the context of the needs of all people for safe, reliable, and affordable transportation while reviewing the life-cycle analysis and impact of EVs on sustainability, the environment and public infrastructure such as charging and hydrogen fueling systems for fuel cells. This course will examine these topics in a manner that promotes student's ability to clearly and concisely communicate (verbally, in written and mathematical formats), from the viewpoint of an engineer. **This course will be presented in 3 lecture hours per week.**

AUTO 8015-1, Automotive Body Structures and Components

This course will look at body and chassis types, construction methods and materials including steel, aluminum, magnesium, fiberglass and carbon fibre and the relative merits of each including basic calculations. It will include structural analysis using finite element analysis (FEA) software. The rationale for the use of various materials and their relative merits including cost, weight, manufacturability, and properties will be discussed. The influence on occupant safety, comfort, and vehicle acoustics (NVH), ride and handling, crashworthiness, and durability of different types of vehicle powertrain components, battery packs and vehicle payloads will also be described. **This course will be presented in 3 lecture hours per week.**

AUTO 8020-1: Vehicle Systems

Introduction to primary automotive systems including engine types and configurations, vehicle dynamics, powertrain and vehicle propulsion. Advanced driver assist systems (ADAS), tractive effort, energy requirements, vehicle duty cycles and usage patterns, propulsion system efficiency, regenerative braking systems, emission, and fuel economy standards as they relate to internal combustion, electric, hybrid, hydrogen fuel cell electric propulsion systems and the relative merits of each will be incorporated. Identification and discussion of industry issues and trends including vehicle safety standards (FMVSS/CMVSS, NCAP and ECE, for example) and emerging technologies and standards (i.e. SAEJ1772, J3400 (NACS), SAE J2601and ISO-26262). **This course will be presented in 3 lecture hours per week.**

AUTO 8030-1, Engineering Project Management, Automotive Lean and Quality Processes

This course will examine the basic principles and tools used in engineering project management through topics such as project scope definition, consideration of time, cost, risk, procurement, and stakeholder management. The course will also review topics associated with the principles of process management used in lean manufacturing (the 5 Lean Principles, House of Value and 6S attributes) and specialized automotive quality processes such as design failure modes and effects analysis (DFMEA), production part approval process (PPAP). and advanced product quality planning (APQP) that are used in the auto industry to ensure on-time delivery of the right product with the right attributes, overall product quality and sound financial management of product development processes. Principles, methods, and best practices (such as life cycle analysis), Poka-Yoke design, design for manufacturability and assembly (DFMA) that are used by industry to reduce waste and operate more efficiently will also be covered. **This course will be presented in 3 lecture hours per week.**

AUTO 8040-1, Vehicle Propulsion

This course will provide an examination of propulsion systems such as clean burning IC engine propulsion, electric vehicle (EV) propulsion (battery, hybrid, plug-in hybrid) and fuel cell electric vehicle propulsion. Topics will include combustion processes and pollution prevention for IC engines, and chemical and material properties and processes for electric propulsion along with key performance metrics. Charging systems and their integration with, and influence on, the electric power grid and potential future developments will be reviewed. **This course will be presented in 3 lecture hours per week.**

AUTO 8050-1, Vehicle Energy and Thermal Management

This course will examine control of the passenger compartment environment, occupant comfort and powertrain thermal management for different types of propulsion (i.e. internal combustion engines, battery electric engines, hybrid, and hydrogen fuel cells) along with energy management topics as it relates to vehicle energy and thermal management. Software will be introduced to aid with system and component sizing and performance calculations. **This course will be presented in 3 lecture hours per week.**

AUTO 8060-1, 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. **This course will be presented in 3 lecture hours per week.**

AUTO 8070-1, 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. **This course will be presented in 3 lecture hours per week.**

Students in this program will primarily be international students who will study and live in Canada for sixteen (16) months. The Master of Mechanical Engineering (Automotive Option) consists of 8 courses.

Classes will meet for twelve weeks and must be taught in 2 hour and 50-minute blocks, one time per week. Instructors are expected to hold one hour of office time per week for student consultation. There is some flexibility in scheduling of the days and time that each class is offered to meet instructor constraints. For more information on how to apply, please see **Appendix 1**. Graduate Assistant support may be provided if class enrolment exceeds the student number thresholds. Instructors may be required to attend an orientation session which will cover administrative details and other matters such as marking criteria, overall content coordination, and so on.

Instructors hired for this program are also required to submit a second final exam that will be held on file in the department in the event that a supplemental exam is required after the Letter VII appointment is complete. The final exam is to be submitted to the departmental secretary. Availability of future teaching opportunities may be negatively impacted by a failure to submit requested information on a timely basis.
The Master of Mechanical Engineering (Automotive Option) program is an Executive Education Program and falls under the terms specified in Letter VII of Collective Agreement between the Faculty Association and the Board of Governors of the University of Windsor, 2021 to 2027 (see **Appendix 2**).

Interested applicants are to submit applications to:

Dr. Bruce Minaker, Department Head
Department of Mechanical, Automotive & Materials Engineering, Faculty of Engineering
University of Windsor, Windsor, Ontario, N9B 3P4
mameng@uwindsor.ca

The deadline for receipt of complete applications is Tuesday, October 14, 2025, at 4:00 pm

Appendix 1:

Application Procedure

Interested applicants must provide:

1) An MEng Auto Sessional Application Form. (to be completed by non-faculty members from the University of Windsor only)

2) A statement of interest in teaching in the program that specifies the particular course or courses the applicant wishes to be considered for. This statement should detail how the applicant meets the stated qualifications. (See attachment re: Instructor Selection Criteria)

3) An indication of the willingness of the instructor to teach one or both sections (if offered).

4) A copy of their CV.

5) Prior quantitative and qualitative student assessments of teaching capabilities and/or client testimonials are particularly welcome.

6) New applicants who have not previously taught the course for which they are applying should provide a tentative overview/instructional plan for the course they are applying for. (This need not be as detailed as a course outline). This overview would specify a proposed structure for the course including: 1) topics to be covered and teaching methods to be employed, 2) how various teaching methods will be incorporated, and 3) proposed methods to determine grades.

7) Instructors who have previously taught the course for which they are applying should:
(i) Include their most recent course outline; and
(ii) Indicate what changes they propose to the original course structure. These changes should take into account student reactions and feedback.

Interested applicants will submit applications directly to mameng@uwindsor.ca

We thank all applicants in advance for their interest in the University of Windsor, however, only those under consideration will be contacted. The University of Windsor is committed to employment equity and welcomes applications from Aboriginal Peoples, persons with disabilities and members of visible minorities. Applications from women are particularly encouraged. Applicants who wish to be considered in the context of Employment Equity need to self-identify as a member of the targeted groups. In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents of Canada

Appendix 2:

Letter VII – Executive Education Programs from the Collective Agreement between the Faculty association and the Board of Governors of the University of Windsor (July 1, 2021 -- June 30, 2027)

LETTER VII --- EXECUTIVE EDUCATION PROGRAMS from
COLLECTIVE AGREEMENT BETWEEN THE FACULTY ASSOCIATION AND
THE BOARD OF GOVERNORS
OF THE UNIVERSITY OF WINDSOR
2021 --- 2027

1. The University may operate Executive Education Programs in Business and Engineering approved by Senate and that are made up of credit courses not assignable as part of the normal workload of the member under Article 5, where the tuition fees and instructor stipends are market driven.

2. The programs are designed to meet the specific needs of professionals and business people seeking opportunities to acquire new knowledge and skills so as to enable them to improve or shift their careers and not compete with the University's academic programs.

3. With the agreement of the Faculty Association the University may operate Executive Education Programs in other fields. In such cases, Executive Education Program proposals shall be approved by the council of the contributing AAU(s) and shall be referred to the Faculty Association prior to final approval by the appropriate Senate committee.

4. Should the Faculty Association not agree to a University proposal to operate an Executive Education Program in a field other than Business and Engineering the matter may be referred to arbitration for determination of whether or not the program proposed by the University meets the criteria for Executive Education Programs referred to in this Letter VIII paragraph 2. The arbitrator shall be drawn from the panel of five (5) arbitrators referred to in clause 39:14 (b). The University shall pay the fees and expenses of the arbitrator.

5. Executive Education Programs may be delivered at various locations using diverse delivery mechanisms, including alternative l earning technologies and team teaching, and at times convenient to the students including teaching evenings, weekends and in intensive periods.

6. The Board of Management is responsible for the Executive Education Programs. It has the responsibility for the business aspects of the program and it is accountable to the University's Board of Governors.

7. The Board of Management is composed of the Provost, Deans of participating Faculties, and three (3) to five (5) representatives from business, industry, and professional organizations. In addition, there shall be one (1) faculty member representing each Executive Education Program.

8. Except as otherwise provided in this Letter VIII, the Board of Management sets the terms and conditions of employment of the instructors. The Executive Education Program's day-to-day operations are conducted by an Executive Director who reports to the Provost and is a member of the Academic Advisory Council.

9. Instructors are sought in accordance with procedures agreed by the appropriate AAU(s) and may include advertising, both externally and internally in the appropriate AAU(s), and by direct solicitation. Those appointed will have relevant experience and qualifications. The appointments are agreed, in accordance with the policies of the Board of Management, by the Dean following recommendation by the AAU appointments committee in the Faculty that is responsible for the academic aspects of the program.

10. Once appointed, instructors are members of the bargaining unit. Stipends are paid per course or per part of a course, and like the fees paid by students, are market driven. The stipends are negotiated on an individual basis and are determined by the Provost, in accordance with the policies set by the Board of Management.

11. The parties acknowledge that the Executive Education Programs inure to the benefit of the University and to the members of the Faculty Association as these programs provide additional revenue to the University, additional employment opportunities to the members of the Association, and serve to further enhance the reputation of the University as an innovative institution concerned with meeting the diverse needs of our community and providing excellence in teaching, research and service. The University thus attracts increased numbers of students. The additional revenues allow the University to support faculty research and academic programs.

12. The clauses of this Agreement listed below, and the terms and conditions set by the Board of Management referred to in paragraph 8 above, apply to those persons appointed to teach in Executive Education Programs. In the case of a conflict between the clauses of this Agreement listed below and the terms and conditions set by the Board of Management, the clauses of this agreement listed below shall apply: 1:01, 2:01, 3:01, 3:03, 4:01– 4:05, 10:02, 10:03 (as to religious beliefs, doctrines and practices), 10:04, 10:05, 11:01, 30:01–30:08, 32:01, 32:02, 38:01–38:07, 39:01–39:16, 50:01, 50:02, 51:01, 51:02, 53:01, 53:02, 58:01, 61:01.

13. Where the Faculty Association contests the interpretation and applicability of the terms and conditions set by the Board of Management and the University disagrees with the Faculty Association such disagreement shall by determined by arbitration. The arbitrator shall be drawn from the panel of five (5) arbitrators referred to in clause 39:14 (b). The University shall pay the fees and expenses of the arbitrator.

14. The University will pay a levy of five percent (5%) of the total gross stipends or fees paid to the instructors in the Executive Education Programs to the fund entitled "The Subsidy Plan for Retiree Health Benefits".

Appendix 3:

Master of Mechanical Engineering (Automotive Option) Instructor Selection Criteria

Overview

The Master of Mechanical Engineering (Automotive Option) is an Executive Education Program. The long-term success of this program is dependent on the reactions of students, which is directly related to the quality of instruction in the program. The overall goal of this hiring process is to select excellent instructors.

Qualifications

Instructors selected for this program will be expected to demonstrate:

- Appropriate educational qualifications as normally evidenced by a relevant Ph.D., Master's Degree and/or equivalent professional qualifications where appropriate (including a Professional Engineer designation)

- Except in exceptional circumstances, applicants should possess a proven track record of excellence in teaching at the graduate level. This would be evidenced by one or more of the following:

    1) Course evaluations from credit and non-credit courses,
    2) Qualitative student assessments,
    3) Client testimonials

- Appropriate subject matter knowledge/expertise. This should be evidenced by one or more of:

    1) Publications (refereed articles, textbooks, articles in professional journals, etc.),
    2) Work experience,
    3) Consulting experiences.

- Preference will be given to candidates who have some successful history of teaching international students and/or to a primarily international audience. This should be evidenced through either:

    1) A demonstrated history of international instruction, and/or,
    2) Successful experiences in similar or equivalent programs.

- Preference will be given to those qualified applicants who indicate an interest in teaching more than one section of the same course in one term.

- An expressed willingness to utilize non-traditional methods for student assessments.

- A willingness to learn and incorporate Brightspace into courses.

- A willingness to adapt their teaching methods and procedures to meet the unique needs of our students.