

MAME SESSIONAL APPOINTMENTS – FALL 2019

In accordance with section 54:07 of the 2017-2021 Collective Agreement the Windsor University Faculty Association (WUFA), Department of Mechanical Automotive and Materials Engineering invites applications from qualified individuals interested in teaching the following course(s), subject to final budgetary approval, course enrollment and appointment of new full-time faculty.

Applicants are required to review University of Windsor Senate Bylaw 51 (Academic Evaluation Procedures) and Article 5:23 to 5:25 of the Collective Agreement with WUFA. Full documentation is available online by visiting the University of Windsor website (www.uwindsor.ca).

INDE2010-2 & 52– Engineering Management and Globalization

This course discusses the impact of globalization on the industrial and systems engineering discipline, in a multidisciplinary and multinational context. For engineers to competently operate in a globalized environment, they must understand the context, methodologies content and outcomes. Critical thinking, systems thinking, integration of technical and, professional and business acumen is necessary. Stability requires knowledge about understanding the complexity involved and learning to manage it. The course will also deal with impact on industrial, production, and national systems. It should help prepare students and giving them skills for solving complex systems, and life-long learning and continuous improvement. **This course will be presented in 3 lecture hours and 2 lab hours per week.** Lectures will be held on Tuesday/Thursday from 8:30am – 9:50am. The lab will be held on Mondays from 4:30pm – 6:20pm. Registration as a Professional Engineer in Canada is required.

INDE3150-1 & 51 – Product and Process Design

Engineering design and work measurement principals are studied and applied to quantify and reduce the base engineered assembly content of automotive product designs. Nontraditional methods for designing and building products for profit are studied with a goal of minimizing total assembly costs, manual labor and associated ergonomic injuries. Recent advances in manufacturing driven product designs in the automotive industry are presented to educate students on the contributions of product designs to the minimization of assembly costs, assembly labor content and the risk of injuries. **This course will be presented in 3 lecture hours and 2 lab hours per week.** Lectures will be held on Monday/Wednesday from 10:00am – 11:20am. The lab will be held on Mondays from 12:30pm – 2:20pm. Registration as a Professional Engineer in Canada is required.

INDE8360-1 / MECH8290-9 – Computer Aided Design

This course will focus on computer-aided methods and applications. The lectures present basic and generic principles and tools, supplemented with significant hands-on practice and engineering applications. Various topics are studied and practiced using CAD/CAE software, such as engineering design and the role of CAD, geometric modelling systems, representation of curves and surfaces, surface modelling, solid modelling and applications, parametric representations, assembly modelling, computer-aided engineering (CAE) and applications, distributed collaborative design, and digital mock-up. A Ph.D. degree in Industrial / Mechanical Engineering is preferred. Previous experience in teaching in/or related to Computer Aided Design is required. **This course will be presented in 3 lecture hours per week.** Lectures will be held on Wednesdays from 5:30pm – 8:20pm.

INDE8360-2 / MECH8290-90 – Computer Aided Design

This course will focus on computer-aided methods and applications. The lectures present basic and generic principles and tools, supplemented with significant hands-on practice and engineering applications. Various topics are studied and practiced using CAD/CAE software, such as engineering design and the role of CAD, geometric modelling systems, representation of curves and surfaces, surface modelling, solid modelling and applications, parametric representations, assembly modelling, computer-aided engineering (CAE) and applications, distributed collaborative design, and digital mock-up. A Ph.D. degree in Industrial / Mechanical Engineering is preferred. Previous experience in teaching in/or related to Computer Aided Design is required. **This course will be presented in 3 lecture hours per week.** Lectures will be held on Tuesdays from 5:30pm – 8:20pm.

INDE8900-1 / MECH8290-1 – Robotics Fundamentals and Programming

This course will introduce students to basics of modeling, design, planning, and control of robot systems and robotic manipulators. Topics include coordinate frames and transformations, forward and inverse kinematic solutions to open and closed chain manipulators, the Jacobian, dynamics and control, sensors and actuators, and motion planning. In addition, special topics such as computer vision, mobile agents, surgical robotics, tele-operation, and bio-mimetic systems will be covered to illustrate the recent advances and state-of-art in robotics. A Ph.D. degree in Industrial /Mechanical Engineering is preferred. **This course will be presented in 3 lecture hours per week.** Lectures are held on Fridays from 4:30pm – 7:20pm.

INDE8900-30 – Production Analysis

Analysis and control of production systems. Demand forecasting. Deterministic and stochastic inventory systems. Aggregate planning and master scheduling. Material requirement planning. Operations sequencing and balancing. Job shop scheduling and control systems. Introduction to group technology and flexible manufacturing systems. Previous experience in teaching in/or related to Production Analysis is required. **This course will be presented in 3 lecture hours per week.** Lectures will be held on



Mechanical Automotive and Materials Engineering

401 Sunset Avenue
Windsor, Ontario, Canada N9B 3P4
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www.uwindsor.ca/mame

Tuesdays from 1:00pm – 3:50pm.

INDE8900-34 – Lean Manufacturing/Process Improvement

This course looks at the evolution of manufacturing and looks at lean manufacturing and process improvement (including the use of tools to improve quality process using Six Sigma). A Ph.D. degree in Industrial / Mechanical Engineering is preferred. Previous experience in teaching in/or related to Lean Manufacturing/Process Improvement is required. **This course will be presented in 3 lecture hours per week.** Lectures will be held on Thursdays from 5:30pm – 8:20pm.

MECH8290-37 – Industrial Fluid Power

Fluid power encompasses most applications that use liquids or gases to transmit power in the form of mechanical work, pressure, and/or volume in a system. This definition includes all systems that rely on pumps or compressors to transmit specific volumes and pressures of liquids or gases within a closed system. **This course will be presented in 3 lecture hours per week.** Lectures will be held on Mondays from 5:30pm – 8:20pm.

MECH8290-79 – Practical CFD and Turbulence Modeling

CFD Fundamentals, principles, modelling procedures, meshing considerations and requirements, grid sensitivity analysis, boundary conditions types and the user input for each boundary type including multiphase flows. Setting up of the physical properties of fluid, Turbulence modelling (RANS and DES), solution control parameters and discretization schemes. Introducing students to AIAA guidelines for 2 verification and validation of CFD simulation. This course will use CFD software STAR-CCM+ to enable the student to learn the fundamentals of Computational Fluid Dynamics. **This course will be presented in 3 lecture hours per week.** Lectures will be held on Fridays from 1:30pm – 4:20pm.

With the exception of exemptions identified under Section 54:08 (a) of the WUFA Collective Agreement, all applicants are required to submit official teaching evaluations (SET scores) or equivalent of all courses they have taught along with an updated CV.

Applicants who have not taught previously in the Department will be asked to complete an application form and will be required to submit a CV with three (3) letters of reference and teaching evaluations to:

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

Closing date for complete application submission is: Tuesday June 18, 2019

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 for the privilege 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.

Dr. A. Sobiesiak, Department Head
Mechanical, Automotive & Materials Engineering

For additional information, please contact the Department of Mechanical, Automotive & Materials Engineering at 519-253-3000, ext. 2596.

Distribution:

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Date of Issue: Tuesday June 4, 2019