

MAINE MARITIME ACADEMY

A College of Engineering, Management, Science, and Transportation

Engineering Adjunct Faculty Positions - Spring 2017

POSITION OVERVIEW

This document describes duties that the Academy expects of adjunct faculty members. Adjunct faculty are non-permanent, temporary faculty who are hired on a semester by semester basis.

Part-time positions begin in January 2017. Please see below for a description of the various courses and credit hours currently open. Please note which course applying for when submitting application, CV and cover letter. Compensation: \$985/credit hour.

TEACHING

Teaching responsibilities include time spent in the classroom, laboratory, or training ship(s) and in immediate preparation for these; maintaining and improving competence in subjects being taught; preparing contemporary teaching materials; conferring with students on course materials; directing individual and group studies and practica; reviewing written examinations and papers; evaluating presentations; supervising independent study projects, supervising or teaching clinical cooperatives or industry programs, and assigning grades according to existing Academy policy.

OTHER ASPECTS OF FACULTY PERFORMANCE

Collegiality, as well as professional and ethical conduct, enhances teaching, learning and the general reputation of all persons in the academy. Therefore, all faculty members are expected to serve in a collegial fashion and in accordance with professional and ethical principles when dealing with other faculty members, students, administrators, and members of the public.

DUTIES

- Teach at undergraduate and graduate level in areas allocated by the Department Head and reviewed from time to time by the Department Head.
- Contribute to the development, planning and implementation of a high quality curriculum.
- Assist in the development of learning materials, by preparing syllabus and lesson plans and maintaining records to monitor student progress, achievement and attendance.
- Participate in the development, administration and marking of exams and other assessments.
- Provide advice and support to students.
- Inform students of their progress by promptly returning assignments, quizzes, papers and exams
- Hold 2 office hours per week.
- Maintain an awareness and enforce fire and health and safety regulations applicable to the teaching location.

ESSENTIAL SKILLS

- Teaching and other forms of public presentation.
- Proven record of ability to supervise academic work by undergraduates or masters students.
- Proven record of ability to manage time and work to strict deadlines.
- Ability to write clearly and tailor communication style to meet the needs of the recipient.
- Ability to work collaboratively.
- Commitment to high quality teaching and fostering a positive learning environment for students
- Commitment to MMA's policy of equal opportunity and the ability to work harmoniously with colleagues and students of all genders, cultures and backgrounds

- Excellent interpersonal, organizational and communication skills are essential
- Ability to maintain composure in stressful situations
- High degree of professionalism
- Demonstrated integrity and ability to maintain confidentiality

MINIMUM QUALIFICATIONS

- Bachelor's degree or higher from an accredited institution in engineering or, for Technical Communications, in technical writing.
- Several years of demonstrated record of achievement in teaching, academic research, and service is preferred.
- Membership in relevant professional organization(s).
- USCG license preferred for technical engineering classes.
- Normally will have produced creative work, professional writing or research in refereed and other professional journals, and be a recognized authority in the field of specialization. Must meet Academy criteria for appointment to the rank of Assistant Professor.

SPECIAL CONDITIONS

- Background check is required
- Must present original copies of transcripts

COURSES/POSITIONS AVAILABLE

CLOSED ET378 : Computer Applications For Power — A practical study of typical engineering software used in industry. Examples include the use of spreadsheet for economic studies, computer aided drafting, power plant controls, moving data from one analysis to another, and special topics chosen by the instructor. Prerequisite: CS150. Rec. 2, Lab. 3, Cr. 3. **(1 section)**

EG242 : Machine Tool Practices — An introductory course in machine tool practices for Power Engineering Technology students. This course is designed to give students the basic theory and practical application necessary to work with and supervise the operation of machine tools and associated equipment such as engine lathe, milling machine, drill press and precision measuring and layout tools. PET students may take EG252 in place of this course and also apply EG252 toward the PET Free Elective requirement. Rec. 1, Lab. 0, Cr. 1. **(1 section)**

CLOSED ET452 : Technical Communications — Extension of the theory and practice of communications tasks of a working engineer or technologist, including engineering proposals and reports; mechanism and process description; instructions, accident or casualty reports; technical specifications; and progress reports. Application of effective visual aids to both oral and written communications will be emphasized. This course supports the marine license program requirements to meet the Standards for Training, Certification and Watchkeeping (STCW). The course may have embedded assessment requirements that must be completed in addition to the class requirements. Rec. 3, Cr. 3. **(4 sections)**

ET351 : Thermal/Fluids Lab — Experiments in thermodynamics, heat transfer, and fluid mechanics, standard experimental techniques, data analysis, and report writing. Communications intensive. Prerequisite: ET211. Lab. 3, Cr. 2. **(1 section)**

ES510 : Engineering Test Laboratory — A laboratory experience through which students learn the basics of engineering testing. This communications-intensive course includes experiment design, instrument selection and calibration, data collection, analysis of data, and report writing and presentation. Prerequisites: ES235, ES245, ES251 or ES201. Lab. 3, Cr. 2. **(1 section)**

CLOSED ET371 : Electrical Power I (LAB ONLY)— Extension of electromagnetic principles to AC and DC circuits, including balanced three-phase AC, and their application to the analysis of DC and AC circuits. Includes meters, transformers, batteries, and three-phase AC. Introduction to practical operation of shipboard and industrial electrical systems. This course supports the marine license program requirements to meet the Standards for Training, Certification and Watchkeeping (STCW). The course may have embedded assessment requirements that must be completed in addition to the class requirements. Prerequisite: PS201 or PS261. Rec. 3, Lab. 2, Cr. 4. **(6 sections)**

CLOSED NA152 : Ship Structure & Stability — Presents the principles of naval architecture and their application to modern vessels. Describes the procedures used in the determination of ship characteristics; damaged and undamaged stability including topics like loose water, flooding and grounding; and typical ship construction and ship building procedures, tests, and ship's trials. This course supports the marine license program requirements to meet the Standards for Training, Certification and Watchkeeping (STCW). The course may have embedded assessment requirements that must be completed in addition to the class requirements. Rec. 3, Cr. 3. **(3 sections)**

CLOSED ET230 : Strength of Materials — Study of stresses and strains produced in materials due to tension, compression, shear, and torsion. Prerequisite: ET202. Rec. 3, Cr. 3. **(1 section)**

CLOSED ET202 : Statics and Dynamics — Study of static force systems, equilibrium, friction, and moments, and their application to structures, including trusses. Also includes study of simple dynamic systems, including kinematics of rectilinear and angular motion, force and inertia, work, energy, and power, the basics of oscillatory motion, and impulse and momentum. Prerequisites: MS110 or MS150, PS102 or PS162. Rec. 4, Cr. 4. **(2 sections)**

CLOSED NA372 : Naval Architecture I — Theory and practice of naval architecture, basic principles and design calculations; terminology, hull form geometry, buoyancy, intact and damaged stability and trim, ship strength and powering. This course supports the marine license program requirements to meet the Standards for Training, Certification and Watchkeeping (STCW). The course may have embedded assessment requirements that must be completed in addition to the class requirements. Prerequisites: ET230 or ES235, and ET201 or ES245. Rec. 3, Cr. 3. **(1 section)**

ES490 : Numerical & Computer Methods for Engineers — A variety of numerical algorithms and techniques which may be employed in the solution of engineering problems. Topics may include solution of nonlinear equations, zeroes of polynomials, interpolation and approximation, curve fitting, numerical differentiation and integration, matrix manipulations, linear simultaneous equations, solution of first and higher order (and systems of) differential equations, finite difference approximation for derivatives, and mathematical modeling. Prerequisites: CS150 or CS151, and MS252. Rec. 3, Cr. 3.

CLOSED ES371 : Enhanced Electrical Power I (LAB ONLY) — An expanded version of ET371, for students planning to take the Engineering-in-Training (EIT) examination. Includes additional topics in AC and DC circuit theory, transient analysis in DC circuits, Norton's and Thevenin's Theorems, loop current and node voltage analysis, and complex notation analysis of AC circuits. This course supports the marine license program requirements to meet the Standards for Training, Certification and Watchkeeping (STCW). The course may have embedded assessment requirements that must be

completed in addition to the class requirements. Prerequisites: PS201 or PS261, MS110 or MS150. Rec. 3, Lab. 2, Cr. 4. **(1 section)**

ES380 : Engineering Design II — A second course in engineering design, utilizing applied probability and statistics for design evaluation and improvement. Topics may include control charts, measurements, analysis of variance, statistically designed experiments, robust design, response surfaces, and reliability. Topics and techniques discussed may also include product design and development, design team skills, and engineering project management. This communications-intensive course includes computer modeling and analysis and a significant design project. Prerequisites: ES180, CS150, MS252; or consent of instructor. (Students are expected to have completed or to be taking ET230/ES235 and ES245 concurrently.) Prerequisites: Rec. 3, Cr. 3. **(1 section)**

CLOSED ET492 : Marine Engineer Technology Capstone II — A course in which the student, as part of a team, applies his/her knowledge of engineering operations, engineering science, and technical communications to orally defend and report on collected data from the ET491 Marine Engineering Technology Capstone I project. This project will draw together elements of the MET curriculum to develop student competence in technical and non-technical skills to solve engineering problems. Prerequisite: ET491. Rec. 1, Cr. 1. **(2 sections)**

EG234 : Power Equipment Lab — An introduction to marine and stationary power plant systems and equipment through study, inspection, and maintenance applications. Topics include lubrication and lube oil purification systems; pumps; air removal equipment; and heat exchangers; piping systems and valves; control systems for temperature, pressure, and flow; compressed air systems; distilling plants; and auxiliary steam turbines. In addition, basic equipment techniques and tag-out safety procedures are introduced. This course supports the marine license program requirements to meet the Standards for Training, Certification and Watchkeeping (STCW). The course may have embedded assessment requirements that must be completed in addition to the class requirements. Prerequisite: EG101. Lab. 3, Cr. 2. **(3 sections)**