

# MAINE MARITIME ACADEMY

A College of Engineering, Management, Science, and Transportation

## Adjunct Engineering Instructors – Spring 2020

### 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.

### 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
- Office Hours required per week: Varies by assignment, typically 2-3 for an adjunct teaching 12 credits or more.
- 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 or the highest degree appropriate in a relevant field of specialization.\*
- Candidates must have a 3 years minimum industrial experience in their appropriate industry.
- Prior successful teaching/training experience desired.
- Membership in relevant professional organization(s).
- Applicable professional license(s).
- 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/Associate/Full Professor.
- \* Preferred but not required for: lab assistant, EG234, EG243, EG252, EG351, EG392L, ET101, ET362L, ET371L, ET482L positions.

## SPECIAL CONDITIONS

- Background check is required
- Tobacco-free campus.
- Must present original copies of transcripts

## COURSES/POSITIONS AVAILABLE

**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.

One three-hour lab per week - Two instructors (lead, assistant) per lab - Typical Class Size 16  
Assistant Instructor needed - Compensation = \$2,000/section (2 units)  
Up to 4 sections available

**EG243 : Welding** — An introduction to and practice in the principles, safety aspects, and correct operations of arc welding and oxyacetylene cutting. Emphasis is on all-position shielded metal arc welding. 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. 1, Lab 2, Cr. 2.

One three-hour lab per week - Two instructors (lead, assistant) per lab - Typical Class Size 14  
Assistant Instructor needed - Compensation = \$2,000/section (2 units)  
Up to 2 sections available

**EG252 : Machine Tool Operations I** - An introductory course in machine tool practices. This course is designed to give students the basic theory and practical application necessary to operate

machine tools and associated equipment such as engine lathe, milling machine, drill press, precision measuring and layout tools. 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. 1, Lab. 3, Cr. 2 .5.

One 3.75-hour lab per week – Two instructors (lead, assistant) per lab - Typical Class Size 24  
Assistant instructor needed - Compensation = \$2,500/section (2.5 units)  
Up to 4 sections available

**EG351 : Machine Tool Operations II** — Practical study of the operation and utilization of lathes and milling machines. Provides a continuing opportunity to receive actual practice in threading and milling projects. Prerequisite: EG252. Rec. 1, Lab 3, Cr. 2.5.

One 3.75-hour lab per week – Two instructors (lead, assistant) per lab - Typical Class Size 24  
Assistant instructor needed - Compensation = \$2,500/section (2.5 units)  
Up to 1 section available

**EG392L: Diesel Power II** — Continuation of material from EG292, with emphasis on theory and operation of air intake systems, fuel injection systems, governors, and lubrication systems. Characteristics of available lubricants and factors affecting lubrication and combustion are covered in detail. 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: EG292 or NS132. Rec. 2, Lab. 2, Cr. 3.

One two-hour lab per week – One instructor (lead) per lab - Typical Class Size 8  
Lead instructor needed - Compensation = \$1,250/section (1.25 units)  
Up to 2 sections available

**EG498L : Power Engineering Operations Capstone II** — The course will develop concepts of power plant operations, which build on previous PEO curriculum material. This will include combined cycle power plant operations and technologies, environmental considerations, professional ethics and current topics of interest in the power generation industry. This course is a communications intensive course. Prerequisite: EG497. Rec. 3, Lab. 2, Cr. 4.

One 2-hour lab per week – Two instructors (lead, assistant) per lab - Typical Class Size 9  
Assistant instructor needed - Compensation = \$1,250/section (1.25 units)  
Up to 1 section available

**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.

Three one-hour lectures per week – One instructor (lead) per class - Typical Class Size 16

Lead Assistant instructor needed for 1/3 of course - Compensation = \$1,000 (1.0 units)

Up to 1 section available

**ET101 : Graphics** — Study and practice in lettering, use of tools, methods of geometric construction, multiview projection, orthographic representation, and delineation applied to marine technology and engineering. 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. 2, Lab 2, Cr. 3.

Two two-hour lecture/lab per week - One lecturer per lab - Typical Class Size 20

Lecturer needed - Compensation = \$3,000/section (3 units)

Up to 4 sections available

**ET362L : Nature and Properties of Materials LAB**— This course introduces materials used in engineering applications along with guidelines for determining the appropriate materials for a given application. It also introduces fundamental science that determines the properties of materials, such as bonding types and atomic/molecular structures. Mechanical and physical Table of Contents Page | 212 properties of materials will be examined in the lectures and in laboratory exercises. Includes standard experimental techniques, mechanical and computerized data acquisition and analysis, and report writing. Communications intensive. Prerequisites: CH301, ET230, and ET452. Rec. 2, Lab. 2, Cr. 3.

One 2-hour lab per week – Two instructors (lead, assistant) per lab - Typical Class Size 16

Assistant Instructor needed - Compensation = \$1,250/section (1.25 units)

Up to 4 sections available

**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.

One three-hour lab per week - Two instructors (lead, assistant) per lab - Typical Class Size 16

Assistant Instructor needed - Compensation = \$2,000/section (2 units)

Up to 1 section available

**ET371L : Electrical Power I LAB** — 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.

One 2-hour lab per week – Two instructors (lead, assistant) per lab - Typical Class Size 16  
Assistant Instructor needed - Compensation = \$1,250/section (1.25 units)  
Up to 4 sections available

**ET482L : Heating, Ventilation, & Air Conditioning LAB** — A study of the components, functions, and operating principles of an air conditioning system with particular attention focused on the influence of temperature, humidity, and air motion as related to human comfort. Topics include psychometrics, air quality, capacity calculations for heat gain and loss, air distribution, and elementary refrigeration systems. Rec. 2, Lab. 2, Cr. 2.

One 2-hour lab per week – Two instructors (lead, assistant) per lab - Typical Class Size 12  
Assistant Instructor needed - Compensation = \$1,250/section (1.25 units)  
Up to 2 sections available

**ET499L : Power Engineering Technology Capstone II LAB** — A course in which the student, individually, and as part of a team, applies his/her knowledge of computer methods, engineering operations, engineering science and technical communications to analyze and create, communicate and defend a written project. At least one formal presentation will be included in this project. Additionally, the course will develop concepts of power plant operations, which build on previous PET curriculum material. This will include combined cycle power plant operations and technologies, using a power plant simulator, environmental considerations, Table of Contents Page | 214 professional ethics and current topics of interest in the power generation industry. This course is a communications intensive and computer intensive course. Prerequisite: ET498. Rec. 4, Lab. 2, Cr. 5.

One 2-hour lab per week – Two instructors (lead, assistant) per lab - Typical Class Size 9  
Assistant instructor needed - Compensation = \$1,250/section (1.25 units)  
Up to 1 section available

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