

# MAINE MARITIME ACADEMY

A College of Engineering, Management, Science, and Transportation

## Adjunct Engineering Instructors – Fall 2024 semester

### 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 Instructor, ET101, and ET399 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. Rec. 1, Lab 2, Cr. 2.

One three-hour lab per week - Two instructors (lead, assistant) per lab - Typical Class Size 16  
Lab Instructors for up to two sections - Compensation starts at \$2,000/section (2 units)

**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 16  
Lab Instructors for up to five sections - Compensation starts at \$2,000/section (2 units)

**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 four-hour lab per week - Two instructors (lead, assistant) per lab - Typical Class Size 24  
Lab Assistant Instructor for up to four sections - Compensation starts at \$2,500/section (2.5 unit)

**EG372L : Electrical Power II Lab**— Builds on ET/ES371 to develop an understanding of design, construction, operational characteristics, efficiency and maintenance of DC and single- and 3-phase AC machinery, and pulse-width modulation (PWM) and its applications to propulsion and industrial drives. Lab work will emphasize principles of safe and efficient operation, troubleshooting, and installation of electrical machinery and systematic use of measuring equipment. 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: MS110 or MS150, ET371 or ES371, PS102 or PS162, CE203 or CO200 or CO201 or CO203. Rec. .5, Lab. 1.5

One two-hour lab per week - Two instructors (lead, assistant) per lab - Typical Class Size 16  
Lab Assistant Instructor for up to four labs - Compensation starts at \$1,250/section (1.25 unit)

**EG481L : Marine Refrigeration & Air Conditioning Lab**— Refrigeration processes encountered in the marine field and industry. Includes the design, operation, and maintenance of the principal refrigeration cycle components, reciprocating and rotary centrifugal compressors, and the refrigerants used. 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: ET211 or ES201 Rec. .2, Lab. .8

One one-hour lab per week - Two instructors (lead, assistant) per lab - Typical Class Size 12  
Lab Assist Instructor needed for up to four labs - Compensation starts at \$750/section (0.75 units)

**ES205 : Engineering Statics** — The study of forces applied to structures. Includes an introduction to vector mechanics, static equilibrium, two and three-dimensional force systems, distributed forces, and friction. Structures studied include trusses, frames, and beams. Prerequisites: MS110 or MS150 and PS102 or PS162. Rec. 3, Cr. 3.

Three one-hour lectures per week - One instructor per section - Typical Class Size 24  
Lead Instructor needed for one section - Compensation starts at \$3,000/section (3 units)

**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 for up to four sections - Compensation starts at \$3,000/section (3 units)

**ET201L : Fluid Power Lecture**— An introduction to applied fluid mechanics, including properties, hydrostatic pressure, flow and pressure, flow and pressure measurements, forces on areas, continuity equation, Bernoulli and general energy equations, analysis of piping systems for losses, and pump selection. These principles are applied to a variety of typical engineering problems in fluid systems. This course is designed to develop each student's ability to analyze engineering problems. 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: MS101 and CS150 (or equivalent). Rec .5, Lab 1.5

Three one-hour lectures per week – One lecturer per section - Typical Class Size 24  
Lecturer needed for up to two sections - Compensation starts at \$3,000/section (3.0 units)

**ET201L : Fluid Power Lab**— An introduction to applied fluid mechanics, including properties, hydrostatic pressure, flow and pressure, flow and pressure measurements, forces on areas, continuity equation, Bernoulli and general energy equations, analysis of piping systems for losses, and pump selection. These principles are applied to a variety of typical engineering problems in fluid systems. This course is designed to develop each student's ability to analyze engineering problems. 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: MS101 and CS150 (or equivalent). Rec .5, Lab 1.5

One two-hour lab per week - Two instructors (lead, assistant) per lab - Typical Class Size 16  
Lab Assist Instructor needed for up to four labs - Compensation starts at \$1,250/section (1.25 unit)

**ET399: Intermediate CADD** - This class will build upon the Solidworks foundation laid in ET101. Students will control drawings with relations in addition to using dimensions. Using Solidworks, students will build advanced parts, assemblies & drawings that include material & cut lists, and the use of 3D printers. To build prototypes of parts and complete assemblies. The final project will be building a single cylinder steam engine that will run on air. Prerequisites: ET101 or instructor permission. Rec 1.5 Lab 2.5, Cr 2.

Two two-hour lab per week - One instructor per section - Typical Class Size 16  
Instructor needed for up to one section - Compensation starts at \$2,750/section (2.75 unit)

**ET-401L: Automation & Control Lab** - A study of principles and hardware for control and automation systems as applied to processes in marine and shoreside power plants. Media studied include pneumatic, hydraulic, mechanical, and electrical/electronic. 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: EG372, CE203 or CO200 or CO201 or CO203. Co-requisite: ET432. Rec. 2, Lab. 2, Cr. 3.

One two-hour lab per week - Two instructors (lead, assistant) per lab - Typical Class Size 16  
Lab Assist Instructor needed for up to one lab - Compensation starts at \$1,250/section (1.25 units)

**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.

Three one-hour lectures per week - One instructor per section - Typical Class Size 14  
Lead Instructor needed for up to two sections - Compensation starts at \$4,000/section (4 units)

**NE202: Nuclear Materials and Their Applications:** An extension of nuclear engineering operations, this course delves into the industrial uses of nuclear materials including power generation, biological and chemical testing, calibration of instruments, as well as monitoring and optimizing manufacturing processes. The course supports the MMA nuclear engineering minor. Prerequisites: Ne-201. Rec. 3, Cr. 3.

Two 75-minute lecture/lab sessions per week - One lecturer per section - Typical Class Size 16  
Lecturer needed for one section - Compensation starts at \$3,000/section (3 units)

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