MAINE MARITIME ACADEMY

A College of Engineering, Management, Science, and Transportation

HAROLD ALFOND SCHOOL OF ENGINEERING

ADJUNCT FACULTY POSITIONS – FALL 2021

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. The Engineering Department seeks to fill 1-semester adjunct instructor(s) positions starting in late August 2021. The Department seeks Instructor(s) to teach Marine Refrigeration Labs, Welding, Electrical Power Labs, Graphics, Power Equipment Labs, Strength of Materials, Fluid Power Labs, Control Systems Lab, Engineering Materials Lab, as well as leading recitations in Electrical Power II and Automation and Control. The successful candidate(s) should be experienced with the subject matter and be able to teach modern and traditional engineering disciplines. A baccalaureate degree is required, and prior college level teaching proficiency is highly desirable. Other credentials may be considered based on a case-by-case basis in light of previous, closely related experience, including appropriate maritime industry or military service. Pre-employment drug testing and background check are required.

TEACHING

Teaching responsibilities may include time spent in the classroom, laboratory, or training vessels. Responsibilities include: maintaining and improving competence in subjects being taught; preparing contemporary teaching materials; conferring with students on course materials; directing individual and group studies and practical demonstrations; 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 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 two (2) scheduled office hours per week and be willing to meet with students at other mutually agreeable times, if necessary.

• 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

• Willingness to learn how to use online teaching platforms at MMA and adapt to potential disruptions caused by Covid 19.

MINIMUM QUALIFICATIONS

• Bachelor's degree or higher from an accredited institution.

• Prior college level teaching proficiency is highly desirable.

• Other credentials may be considered on a case-by-case basis

SPECIAL CONDITIONS

• Background check is required

• Must present original copies of transcripts

COURSES/POSITIONS AVAILABLE:

EG481 : Marine Refrigeration & Air Conditioning : Lab Assistant — 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. 1, Cr. 2.5. **Lab meets one (1) time a week for 50 minutes each. Six (6) sections available.**

EG243 : Welding : Lab Assistant — 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. **Lab meets one (1) times a week for 2 hours and 50 minutes each. Five (5) sections available.**

EG372 : Electrical Power II : Lab Assistant — 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, CE203 or CO200 or CO201 or CO203. Rec. 2, Lab. 2, Cr. 3. **Lab meets one (1) times a week for 1 hour and 50 minutes each. Five (5) sections available.**

ET101 : Graphics : Lecturer — 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. **Lecture meets two (2) times a week for 1 hour and 50 minutes each. Four (4) sections available.**

EG234 : Power Equipment : Lab Assistant — 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 Table of Contents Page | 207 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. **Lab meets one (1) times a week for 2 hours and 50 minutes each. Three (3) sections available.**

ET230 : Strength of Materials : Lecturer — Study of stresses and strains produced in materials due to tension, compression, shear, and torsion. Prerequisite: ET202. Rec. 3, Cr. 3. **Lecture meets three (3) times a week for 50 minutes each. One (1) sections available.**

ET201 : Fluid Power : Lab Assistant — 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 2, Lab 2, Cr. 3. **Lab meets one (1) times a week for 1 hour and 50 minutes each. Two (2) sections available.**

ES433 : Control Systems Engineering : Lab Assistant — Electromechanical control systems theory and applications to design and analysis of practical marine and industrial electromechanical automation and control systems. Topics include, mathematical modeling of dynamic systems, transient-response analysis, stability analysis, steady-state errors, and PID compensation, and will utilize computer analysis and simulation. This course supports the marine license program requirements to meet the Standards for Training, Certification and Watchkeeping (STCW). Prerequisites: ET432 (Co-requisite for 5 Year MSE students), MS260, Rec. 2, Lab. 2, Cr. 3. **Lab meets one (1) times a week for 1 hour and 50 minutes each. One (1) section available.**

ES501 : Engineering Materials : Lab Assistant — An introduction to the structure and structural characteristics of materials used in engineering, including metallic alloys, ceramics, polymers, and composites. Methods of processing are emphasized. Prerequisites: ET230 or ES235 and CH301 or CH352. Rec. 3, Cr. 3. **Lab meets one (1) times a week for 1 hour and 50 minutes each. One (1) section available.**

EG372 : Electrical Power II (Recitation – see aforementioned course description). Recitation meets one (1) time a week for 1 hour and 50 minutes each. One (1) section available.

ET401 : Automation and Control : Recitation — 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. **Recitation meets one (1) time a week for 1 hour and 50 minutes each. One (1) section available.**