Harold Alfond School of Engineering

Adjunct Faculty Positions – Spring 2023

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 early January 2022. The Department seeks Instructor(s) to teach Welding, Electrical Power Labs, Graphics, Machine Tool Operations, Power Equipment Labs, Engineering Materials Lab, and HVAC Lab. 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:

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ET482 : Heating, Ventilation, & Air Conditioning — 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, Cr. 2. **Lab meets one (1) time a week for 50 minutes each. Four (4) sections available. Compensation: $600.00/section (0.60 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. **Lab meets one (1) times a week for 2 hours and 50 minutes each. Eight (8) sections available. Compensation: $2000.00/section (2.00 units)**

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. **Lab meets one (1) times a week for 1 hour and 50 minutes each. Four (4) sections available. Compensation: $1250.00/section (1.25 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. **Lecture meets two (2) times a week for 1 hour and 50 minutes each. Three (3) sections available. Compensation: $3000.00/section (3.00 units)**

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 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. Compensation: $2000.00/section (2 units)**

ET362 : Nature and Properties of Materials — 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 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. **Lab meets one (1) times a week for 1 hour and 50 minutes each. Four (4) sections available. Compensation: $1250.00/section (1.25 units)**

EG352 : Machine Tool Operations III — Designed to give the machine tool student experience in developing advanced machining skills. Training includes internal single point threading and boring; knurling, radius and taper turning on the lathe; and advanced milling machine operations using traditional machining methods. Computer numerical controlled programming and machining will be introduced. Traditional machining and computer numerical control (CNC) machining projects are required. Prerequisite: EG351 or permission of instructor. Rec. 1, Lab 2, Cr. 2. **Lecture meets one (1) time a week for 2 hours and 50 minutes each. One (1) section available. Compensation: $2000.00/section (2.00 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. Prerequisites: HC111 and CO200 or CO201 or CO203 or CE203 or NA152. Rec. 3, Cr. 3. **Lecture meets three (3) times a week for 50 minutes each. Two (2) sections available. Compensation: $3000.00/section (3.00 units)**

ET401 : Automation and Control — 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. Rec. 2, Lab. 2, Cr. 3. **Lab meets one (1) time a week for 1 hour and 50 minutes each. Two (2) sections available. Compensation: $1250.00/section. (1.25 units)**

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. 2.5, Cr. 2 .5. **One 3.5-hour lab per week – Three instructors (lead, 2 assistant) per lab - Typical Class Size 24 Assistant instructor needed - Compensation = $2,500/section (2.5 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
