



CALHOON MEBA ENGINEERING SCHOOL

27050 St. Michaels Road Easton, Maryland 21601 (410) 822-9600 Fax (410) 822-7220

ALL PORTS BULLETIN

NEW COURSE OFFERINGS

INSTRUMENTATION (2-weeks)

This two week course presents both theory and practical aspects of industrial process measurement and control systems. Formal presentations include pneumatic, analog electronic, and digital instruments, including HART. The various techniques and sensors used to measure pressure, level, temperature, and flow will be discussed. Laboratory exercises will cover calibration and testing of measurement devices, transmitters, and valve positioners. Laboratory exercises will also include configuration of digital Proportional-Integral-Derivative (PID) controllers, and the implementation of formal tuning methods. In addition, computer based software will also be utilized for various labs on control loop tuning.

Course Capacity: 12 students

Prerequisites: None

Special Requirements: None



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PROGRAMMABLE LOGIC CONTROLLERS (1-week)

Programmable Logic Controllers is a one-week course with lectures and student labs. The course covers the theory and practical use of programmable logic controllers (PLCs). Topics include historical development, electromechanical and digital-logic technologies, number systems, Boolean algebra, ladder logic programming concepts, analog and discrete I/O specifications, internal logic functions, specialized hardware, digital and analog control applications, and industrial networking basics. The Allen-Bradley SLC-500 is the primary PLC utilized in the course. Lab exercises range from basic programming to the design of interlocks, alarm circuits, and applications requiring event timing, output sequencing, program flow control, and analog I/O manipulation. Practical troubleshooting exercises include the use of I/O forcing, data table monitoring, field-device testing, and appropriate use of internal PLC diagnostics. The importance of documentation, regulations, and maintenance procedures are also discussed.

Course Capacity: 10 students

Prerequisites: None

Special Requirements: None



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DATA COMMUNICATIONS (1-week)

This one-week course consists of lectures and student labs. The course covers modern computer communications principles by combining classroom theory and hands-on practice. Initial lectures include a review of the physical principles involved in data communications, historic development of computer data communications, and an overview of communication terminology. Communication standards, network protocols, network topologies, and various hardware implementations are presented. Transmission media, network interfaces, repeaters, hubs, bridges, switches, and routers are covered in the context of the standard OSI communications model. TCP/IP and Industrial network standards, including Industrial Ethernet and CANbus, are emphasized. Lab projects include cable preparation, testing and certification, network connectivity tests, and monitoring/analyzing network traffic.

Course Capacity: 12 students

Prerequisites: None

Special Requirements: None



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FAST RESCUE BOAT RENEWAL (3-days)

This three-day course meets the requirements set forth in STCW Table A-VI/2-2 for demonstration of continued professional competence in Fast Rescue Boats. Topics include both classroom and hands-on training in: basic high and low speed operations; in water victim recovery and transport; running alongside another vessel underway and riding a sea painter; open water search patterns; launch and recovery; stern and side towing; re-righting a capsized FRB (several methods); sponson and valve repair; emergency repair; use of communication and emergency equipment; operations in heavy weather and breaking seas; and engine familiarization and troubleshooting.

Note: Members holding a "Not Fit for Duty" slip are not eligible to take this course.

Course Capacity: 10 students

Prerequisites: Students should have taken the one-week Fast Rescue Boat course within the previous five years.

Special Requirements: Students will be required to pass both a written exam and practical assessments in the areas set forth above. A swimsuit is required and sun protective clothing and lotion are strongly suggested. PFDs will be provided.



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BST REVALIDATION (1-week)

This one-week course combines the Advanced Fire Fighting Revalidation and the Basic Training / Proficiency in Survival Craft Revalidation courses. Students registering for this class must take both parts.

Advanced Fire Fighting Revalidation

This 16 hour course is designed for those mariners who have one year of sea time in the last five years and need to renew their STCW endorsement for Advanced Fire Fighting. The curriculum will cover the Knowledge, Understanding and Proficiencies, as deemed applicable by the Coast Guard, for the STCW Competencies of: Control of Fire Fighting Operations, Organizing and Training Fire Parties, Inspect and Service Fire Detection and Extinguishing Systems, and Investigate and Compile Reports on Incidents Involving Fire.

Basic Training / Proficiency in Survival Craft Revalidation

This 24 hour course is designed for those mariners who have one year of sea time in the last five years and need to renew their STCW endorsement for Basic Safety Training and Proficiency in Survival Craft (Lifeboatman). The curriculum will cover the Knowledge, Understanding and Proficiencies, as deemed applicable by the Coast Guard, for the STCW Competencies of: Personal Survival Techniques, Fire Prevention and Fire Fighting, and Proficiency in Survival Craft

Note: Members holding a "Not Fit for Duty" slip are not eligible to take this course.

Course Capacity: 12 students

Prerequisites: None

Special Requirements: None



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BST REFRESHER (1-week)

This one-week course combines the Advanced Fire Fighting Refresher, Basic Safety Training Refresher, and Proficiency in Survival Craft Refresher courses. Students registering for this class must take all three parts.

Advanced Fire Fighting Refresher

This 16 hour course is designed for those mariners who have a valid STCW Advanced Fire Fighting endorsement but **do not have** one year of sea time in the last five years and need to renew their STCW endorsement for Advanced Fire Fighting. The curriculum of this course provides refresher training for officers assigned specific duties and responsibilities related to firefighting leadership and command. Additionally it will reacquaint the student with the National Integrated Incident Management System (NIIMS), fire suppression planning, incident strategies and associated tasks.

Basic Safety Training Refresher

This 24 hour course is designed for those mariners who have a valid STCW Basic Safety Training endorsement but **do not have** one year of sea time in the last five years and need to renew their STCW endorsement for Basic Safety Training. The curriculum of this course provides refresher training for officers and will cover the Knowledge, Understanding and Proficiencies, as deemed applicable by the Coast Guard, for the STCW Competencies of: Personal Survival Techniques and Fire Prevention and Fire Fighting.

Proficiency in Survival Craft Refresher

This 16 hour course is designed for those mariners who have a valid STCW Proficiency in Survival Craft (Lifeboatman) endorsement but **do not have** one year of sea time in the last five years and need to renew their STCW endorsement for Proficiency in Survival Craft. The curriculum of this course provides refresher training for officers and will cover the Knowledge, Understanding and Proficiencies, as deemed applicable by the Coast Guard, for the STCW Competencies of: Taking Charge of a Survival Craft, Operating a Survival Craft Engine, Applying First Aid to Survivors and Using Locating Devices.

Note: Members holding a "Not Fit for Duty" slip are not eligible to take this course.

Course Capacity: 12 students

Prerequisites: None

Special Requirements: None