

## NTCC Maritime Course Descriptions:

### GENERAL EDUCATION REQUIREMENTS: (15 HOURS)

\* required; other coursework is recommended and dependent upon program track option

#### **\*ENGL 1015 - English Composition I (3/0/3)**

Prerequisite: DVEN 0092; or ACT English 18; or COMPASS English 69. (Board of Regents: CENL 1013)  
Introduces students to the critical thinking, reading, writing and rhetorical skills required in the college/university and beyond, including citation and documentation, writing as process, audience awareness; and writing effective essays. (English)

#### **MATH 1001 - Applied Algebra (3/0/3)**

Prerequisite: DVMA 0091; or ACT Math 18; or COMPASS Math 41 Pre-Algebra (Algebra 39). (Board of Regents: CMAT 1203) Emphasis on applications involving: solving equations and inequalities; function properties and graphs; linear, quadratic, polynomial, exponential and logarithmic functions [This course is non-transferable]. (Math)

#### **MATH 1015 - College Algebra (3/0/3)**

Prerequisite: DVMA 0092; or ACT Math 20; or COMPASS Math 41 Algebra. (Board of Regents: CMAT 1213) In-depth treatment of solving equations and inequalities; function properties and graphs; inverse functions; linear, quadratic, polynomial, rational, exponential and logarithmic functions with applications; systems of equations. (Math)

#### **BIOL 1110 Environmental Science (3/0/3)**

Environmental biology addresses ecosystems, populations, major environmental pollutants, and human health effects.

Prerequisites: none

Types: Lecture, Independent Study, Web  
(LCN: CEVS 1103)

#### **PHYS 1010 - Elementary Physics (3/0/3)**

Prerequisite: DVMA 0092; or ACT Math 19+; or COMPASS Math 40+ Algebra. (Board of Regents: CPHY 1013). Introductory physics focuses on fundamental problem-solving strategies, motion in one and two dimensions, vectors, force, power, energy, momentum and principles of light and sound to expose students without high-school physics to basic physics principles and concepts. This course serves as an introductory course and is not transferable to Southeastern Louisiana University.

#### **\*HIST 1500 World History from the Perspective of Oil (3/0/3)**

This course is a survey of world history from the late 19<sup>th</sup> century to the present with a special emphasis on oil and the important role it has played in shaping society. Prerequisites: none

Types: Lecture, Independent Study, Web  
(LCN: History Elective)

#### **\*PSYC 1500 Psychology of Addictive Behavior and Substance Abuse (3/0/3)**

This course focuses on addictive substances and their effects, therapy and counseling techniques, and methods of addiction recovery. Prerequisites: none

Types: Lecture, Independent Study, Web  
(LCN: Behavioral Science Elective)

**SPCH 1025 - Introduction to Interpersonal Communication (3/0/3)**

Prerequisite: None.. (Board of Regents: CCOM 2213). An introduction to the communication process. Survey and application of intra-and interpersonal communication with special emphasis given to communication models, the message, the sender, and resulting behavior.

**SPCH 1015 - Public Speaking (3/0/3)**

Prerequisite: None. (Board of Regents: CCOM 2013) Study and application of basic principles of effective extemporaneous speaking, including audience analysis and adaptation, topic selection, research, organization, and presentation skills. Students deliver, listen to, and critique a variety of speeches. (Humanities)

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**CORE REQUIREMENTS: (21 HOURS)**

**ELEC 1120 - Basic Electricity (4/1/5)**

Prerequisite: None. An Introduction to the occupation, shop safety, electrical safety hazards and prevention and OSHA regulations, tools and equipment-some laboratory required for functions of common tools and equipment. Introduction to the concepts of DC/AC electricity fundamentals, matter and atomic theory; a study of Ohm's Law, series, and series-parallel circuits and meters. Laboratory requirements include constructing circuits, measuring voltage, amperage, and resistance

**ELEC 1230 National Electrical Code (2/2/4)**

Prerequisite: None. Focuses on standards for the safe installation of electrical wiring and equipment in the United States. Introduces students to codes typically adopted to standardize safe electrical practices. Emphasis is given to marine applications.

**IMTC 1000- Basic Hydraulics (3/0/3)**

Co or Pre-requisite: DVMA 0091; or ACT Math 17+; or COMPASS Math 38+ Pre-Algebra (30+ Algebra). This course includes the principles of basic hydraulic systems and general maintenance procedures of a hydraulic system. Also included are the disassembly and assembly of hydraulic components and the application of safety rules and regulations.

**IMTC 1100- Welding Technology I (7/0/7)**

Prerequisite: None. Topics covered in this course include: Welding Safety: Covers safety equipment, protective clothing, and procedures applicable to the cutting and welding of metals. Oxyfuel Cutting: Explains the safety requirements for oxyfuel cutting. Identifies oxyfuel cutting equipment and setup requirements. Explains how to light, adjust, and shut down oxyfuel equipment. Trainees will perform cutting techniques that include straight line, piercing, bevels, washing, and gouging. Plasma Arc Cutting: Explains plasma arc cutting equipment and safe work area preparation. Identifies correct amperage, gas pressures, and flow rates. Covers plasma-arc cutting methods for piercing, slotting, squaring, and beveling metals. Explains how to store equipment and clean the work area. Air Carbon Arc Cutting and Gouging: Describes air carbon arc cutting equipment and processes. Identifies the electrodes and safe operation of the equipment. Provides step-by-step instructions for performing air carbon arc washing and gouging activities. Base Metal Preparation: Describes how to clean and prepare all types of base metals for cutting or welding. Identifies and explains joint design and base metal preparation for all welding tasks. Weld Quality: Identifies the codes that govern welding, including marine welds. Identifies

and explains weld imperfections and causes. Describes non-destructive examination practices, visual inspection criteria, welder qualification tests, and the importance of quality workmanship. SMAW-Equipment and Setup: Describes SMAW welding and welding safety. Explains how to connect welding current and setup arc welding equipment. Identifies and explains using tools for cleaning welds. Shielded Metal Arc Electrode: Explains electrode characteristics and different types of filler metals. Describes the role of the American Welding Society (AWS) and the American Society of Mechanical Engineers (ASME). Explains proper storage and control of filler metals and identifies the use of codes.

**IMTC 1020 – Leadership, Teamwork and Professional Ethics (2/0/2)**

Prerequisite: None. Students identify, apply and reflect on aspects of leadership, teamwork and professionalism, including concepts of personal change toward effective leadership in response to changing environments. Topics cover values and ethics, motivation, group dynamics, conflict resolution, interpersonal and communication skills, personal assessment and development and citizenship. A variety of delivery methods including lecture, critical thinking activities, role playing, interviews and learning projects are incorporated into course delivery.



**Students can choose between 2 Maritime Track Options: Vessel Operations or Automated Systems**

*\*Automated Systems prepares students for employment focused on the ROV industry.*

**Vessel Operations Track:**

**IMTV 1500 – Introduction to Maritime Careers and Opportunities (2/0/2)**

Prerequisite: None. Students are introduced to maritime careers and the maritime culture. The introduction to maritime studies is designed to familiarize students with the dynamic cultural and natural resources of the maritime environment. Students will gain knowledge and understanding of maritime environments with an emphasis on safety. Regulations and requirements for maritime employability are a required component of this course. Field trips are integrated into the instructional delivery.

**IMTV 1510 – SCTW: Personal Safety & Responsibility, Firefighting, Water Survival, (2/1/3) Social Responsibilities, and First Aid/CPR**

This course covers the requirements of Personal Safety and Responsibility and meets the minimum standard of competence in Elementary First Aid, Personal Survival Techniques, Personal Safety and Responsibilities and Basic Fire Fighting. The PSSR course encompasses material including emergency types and actions, safety equipment, drills and training, safe working environments, shipboard escape routes, effective communication, precautions for confined space entry and the importance of maintaining appropriate employee relations.

**ELEC 1330 - Generators/Motors and Transform Operation (2/2/4)**

Co-requisite: DVMA 0091; or ACT Math 17+; or COMPASS Math 38+ Pre-Algebra (30+ Algebra). This course includes the fundamentals and principles of single phase and three phase motors and generators and transformer theory, application, and characteristics.

**IMTV 2140 - Introduction to Maritime Transportation (3/0/3)**

Prerequisite: None. Introduction to the business of maritime transportation focusing on the commercial aspects of shipping. The maritime transportation system as a whole is analyzed starting from the source of cargo to the end destination. Topics include concepts of shipping management, shipping regulatory frameworks, types of shipping, the role of marine terminals, and understanding

freight rates. Several types of ships, shipping services and types of cargos are described including tramp shipping, chartering, passenger operations, industrial carriers, and inland waterway vessels.

**IMTV 2130 - Introduction to Marine Electronic Navigation and Radar (2/1/3)**

Prerequisite: Math 1005 or 1015. Introduction to marine electronic navigation with an emphasis on GNSS, the Global Navigation Satellite System. Coursework includes technical understanding of the US Global Positioning System, the Russian GLONASS system, Europe's Galileo system, India's INRSS and other emerging global GNSS systems. A major focus is on various types of radar navigation with emphasis on position accuracy and assurance given the challenges of natural GNSS error, spoofing, jamming and other threats. The program includes a technical lab providing an introduction to the use of marine charting systems aboard a vessel as a marine watch stander, including an introduction to marine Electronic Chart Display Information Systems (ECDIS).

**IMTV 2100 - Marine Weather and Meteorology (3/0/3)**

Prerequisite: Math 1005 or 1015. This course provides an overview of marine weather and meteorology and the practical techniques of coastal navigation with regard to wind, tides, visibility, shoal water and vessel positioning. The program utilizes a marine navigation lab and teaches techniques to plot the position of a vessel, predict tidal levels, current velocity and the effect of these forces on future vessel position.

**IMTV 2110 - Marine Hazardous Materials (3/0/3)**

Prerequisite: None. This course will introduce the student to the laws, standards and regulations that apply to hazardous materials incidents and response and provide the student with information to recognize a hazardous materials incident, appropriate notification procedures, appropriate authorities, and how to maintain the safety of personnel. The student will acquire the knowledge and skills of how to take defensive actions at a scene involving hazardous materials or hazardous waste and in doing so protect themselves, the public, property, and the environment.

**IMTV 2120 - Introduction to Marine Safety (3/0/3)**

Prerequisite: None. This course indoctrinates students to a comprehensive maritime safety culture. Personal conduct, awareness and knowledge focused on understanding the laws and liabilities associated with employment in the industry is emphasized to ensure marine safety competencies and compliance.

**Automated Systems Track:**

**IMTV 1500 – Introduction to Maritime Careers and Opportunities (2/0/2)**

Prerequisite: None. Students are introduced to maritime careers and the maritime culture. The introduction to maritime studies is designed to familiarize students with the dynamic cultural and natural resources of the maritime environment. Students will gain knowledge and understanding of maritime environments with an emphasis on safety. Regulations and requirements for maritime employability are a required component of this course. Field trips are integrated into the instructional delivery.

**IMTV 1510 – SCTW: Personal Safety & Responsibility, Firefighting, Water Survival, (2/1/3)  
Social Responsibilities, and First Aid/CPR**

This course covers the requirements of Personal Safety and Responsibility and meets the minimum standard of competence in Elementary First Aid, Personal Survival Techniques, Personal Safety and Responsibilities and Basic Fire Fighting. The PSSR course encompasses material including emergency

types and actions, safety equipment, drills and training, safe working environments, shipboard escape routes, effective communication, precautions for confined space entry and the importance of maintaining appropriate employee relations.

**ELEC 1330 - Generators/Motors and Transform Operation (2/2/4)**

Co-requisite: DVMA 0091; or ACT Math 17+; or COMPASS Math 38+ Pre-Algebra (30+ Algebra). This course includes the fundamentals and principles of single phase and three phase motors and generators and transformer theory, application, and characteristics.

**IMTA 2000 – Electronics and Electrical Control Systems (2/1/3)**

Prerequisite: ELEC 1120 and ELEC 1230. The course includes the identification of various types of conductors, connections, types of boxes, parts of a breaker panels,, switches, and installation devices. An introduction to various methods of installing AC cable, EMT, rigid metallic conduit, PVC, flexible and surface raceway. Lab requirements include cutting, bending, and installing conduit.

**IMTA 2010 – CAD and Blueprint Reading (2/1/3)**

Co-requisite: DVMA 0091; or ACT Math 17+; or COMPASS Math 38+ Pre-Algebra (30+ Algebra). This course teaches basic interpretation of shop blueprints with basic knowledge of reading shop prints to the extent that they can actually produce the part. Topics include identifying types and uses of blueprints, identifying lines, and interpreting views, dimensions and tolerances. The course introduces CAD blueprint reading skills which includes specifications and trade-related elements. The course includes making a material list from a blueprint.

**ELEC 2720 - Introduction to Programmable Logic Controllers (1/2/3)**

Co-requisite: DVMA 0091; or ACT Math 17+; or COMPASS Math 38+ Pre-Algebra (30+ Algebra) and DVEN 0091; or ACT English 17+; or COMPASS 39+ English. An introduction to the uses and applications of logic technology. The course utilizes test equipment and schematic diagrams to troubleshoot and repair circuits while practicing safety procedures.

**INTE 2830 Cabling Infrastructure (2/1/3)**

Prerequisite: INTE 1000. Co-requisite: DVMA 0091; or ACT Math 17+; or COMPASS Math 38+ PreAlgebra (30+ Algebra) and DVEN 0091; or ACT English 17+; or COMPASS 39+ English. This course is an elective designed to provide an in-depth understanding of the planning, installing, configuring, and maintaining servers, including knowledge of server-level hardware implementations, data storage subsystems, data recovery, and I/O subsystems. This specialist should know the interrelationships of all parts of the server system and understand the ramifications of their actions. This course provides the skills and knowledge to prepare the students for Server+ CompTIA certification.

**IMTA 2040 – Introduction to ROV Materials and Operations (3/0/3)**

Prerequisite: IMTA 2000. Topics include the history of ROVs, applications and tooling; safe working practices, , vessels and offshore operations; basic seamanship; ROV procedures and principles; launch and recovery, safety management and lifting systems. Remotely Operated Vehicles (ROVs) will be built and launched underwater.