

MARINE TECHNOLOGY

ASSOCIATE IN APPLIED SCIENCE (AAS) DEGREE

DESCRIPTION: This program is designed for students interested in careers working on Great Lakes, ocean-based research vessels, or in industries related to the blue economy with particular emphasis on ROV (Remote Operated Vehicle) operations and applied robotics. This program features an on-water component, coursework related to ocean issues and underwater archeology, skilled trades required to design and build an ROV, and the opportunity for an internship between the first and second year of the program. Networking opportunities with public and private sector employers will be provided, along with a capstone project leading to competition in the national ROV competition. The program will emphasize project-based learning activities appealing to employers across a range of related industries.

GENERAL EDUCATION REQUIREMENTS CREDITS: 12-16

ENG 111 or ENG 120	ENGLISH COMPOSITION I (3/3) or APPLIED COMMUNICATION (3/3)
ENG 112 or ENG 123	ENGLISH COMPOSITION II (3/3) or TECHNICAL COMMUNICATION (3/3)
PLS 221 or PLS 222 or HST 221 & HST 222	AMERICAN GOVERNMENT REQUIREMENT (3-6/3-6)
PHY 111 or PHY 121	APPLIED PHYSICS (3/4) or GENERAL COLLEGE PHYSICS (4/6)

CORE PROGRAM REQUIREMENTS CREDITS: 47-48

APP 100E	ELECTRICAL STUDIES FOR TRADES (3/4) ^A
APP 106M	INDUSTRIAL SAFETY (1/1) ^A
APP 107E	SPECIALTY WIRING (3/4) ^A
APP 114E	PROGRAMMABLE CONTROLLERS (3/4) ^A
APP 123E	LINEAR ELECTRONICS FOR ELECTRICIANS (3/4) ^A
CAD 220	MACHINE DESIGN (3.5/5) ^A
EGR 130	TEAM DESIGN PROJECT (2/3) ^A
ELE 220	PC BASE DATA ACQUISITION & CONTROL (3/4) ^A
GEO 151	INTRODUCTION TO GIS (1.5/2)
GEO 152	ADVANCED GIS (1.5/2)
IND 120	INDUSTRIAL NETWORKING (3/4) ^A
IND 229	HYDRAULIC & PNEUMATIC POWER (3/4) ^A
MFG 101	MACHINING PROCESSES I (4/6) ^A
MTH 110 or MTH 113	TECHNICAL MATH I (3/4) or INTERMEDIATE ALGEBRA (4/4)
MTH 112 or MTH 122	TECHNICAL MATH II (3/4) or PLANE TRIGONOMETRY (3/3)
MRT 101	INTRO TO SUBMERSIBLE ROBOTICS W/BUILD (3/4) ^A
MRT 110	INTRODUCTION TO CAREERS ON THE WATER (2/3) ^A
MRT 210	ROV PILOTING (2/3) ^A

SUGGESTED ELECTIVES CREDITS:

TECHNICAL ELECTIVE OPTIONS: APP 104E, APP 111E, APP 128M, CNS 170, HST 140, PEH 105.

GPA of 2.0 or higher must be maintained in occupational specialty courses

MINIMUM 60.5 CREDIT HOURS/78.5 CONTACT HOURS

NOTES:^A Included in occupational specialty

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SUGGESTED SEQUENCE OF COURSES

YEAR 1 (SUMMER SEMESTER) CREDITS: 2

MRT 110	INTRO TO CAREERS ON THE WATER (2/3)
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YEAR 1 (FALL SEMESTER) CREDITS: 16-17

MTH 110 or MTH 113	TECHNICAL MATH I (3/4) or INTERMEDIATE ALGEBRA (4/4)
ENG 111 or ENG 120	ENGLISH COMPOSITION I (3/3) or APPLIED COMMUNICATION (3/3)
APP 106M IND 120 APP 100E MRT 101	INDUSTRIAL SAFETY (1/1) INDUSTRIAL NETWORKING (3/4) ELECTRICAL STUDIES FOR TRADES (3/4) INTRO TO SUBMERSIBLE ROBOTICS W/BUILD (3/4)

YEAR 1 (SPRING SEMESTER) CREDITS: 15

MTH 112 or MTH 122	TECHNICAL MATH II (3/4) or PLANE TRIGONOMETRY (3/3)
ENG 112 or ENG 123	ENGLISH COMPOSITION II (3/3) or TECHNICAL COMMUNICATION (3/3)
CAD 150 APP 114E APP 123E	3D MODELING (3/4) PROGRAMMABLE CONTROLLERS (3/4) LINEAR ELECTRONICS FOR ELECTRICIANS (3/4)

YEAR 2 (SUMMER SEMESTER) CREDITS: 2

MRT 210	ROV PILOTING (2/3)
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YEAR 2 (FALL SEMESTER) CREDITS: 16.5-17.5

PHY 111 or PHY 121	APPLIED PHYSICS (3/4) or GENERAL COLLEGE PHYSICS (4/6)
MFG 101 IND 229 CAD 220 APP 107E	MACHINING PROCESSES I (4/6) HYDRAULIC & PNEUMATIC POWER (3/4) MACHINE DESIGN (3.5/5) SPECIALTY WIRING (3/4)

YEAR 2 (SPRING SEMESTER) CREDITS: 14-17

EGR 130 ELE 220 GEO 151 GEO 152	TEAM DESIGN PROJECT (2/3) PC BASE DATA ACQUISITION & CONTROL (3/4) ^A INTRODUCTION TO GIS (1.5/2) ADVANCED GIS (1.5/2)
PLS 221 or PLS 222 or HST 221 & HST 222	AMERICAN GOVERNMENT REQUIREMENT (3-6/3-6)

TECHNICAL ELECTIVE (3/4)