

MARINE TECHNOLOGY
Associate in Science (AS) Degree

Minimum Credits: 60.5
Contact Hours: 78.5

INTRODUCTION: 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. The 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 COURSES		(MEETS GRADUATION REQUIREMENTS AND MTA)	
COURSE	TITLE	CREDITS	CONTACT HOURS
ENG 111 or ENG 120	English Composition I or Applied Communication	3.0	3.0
ENG 112 or ENG 123	English Composition II or Technical Communication	3.0	3.0
PLS 221 or PLS 221 or HST 221 and HST 222	American Government Requirement	3.0-6.0	3.0-6.0
PHY 111 or PHY 121	Applied Physics or General College Physics	<u>3.0-4.0</u>	<u>4.0-6.0</u>
		GENERAL EDUCATION CREDITS/CONTACT HOURS:	12.0-16.0 13.0-18.0

CORE PROGRAM COURSES		(MEET WITH ACADEMIC ADVISOR TO DETERMINE CORE PROGRAM COURSES FOR CONCENTRATION AND TRANSFER)	
COURSE	TITLE	CREDITS	CONTACT HOURS
APP 100E	Electrical Studies for Trades ^A	3.0	4.0
APP 106M	Industrial Safety ^A	0.5	0.5
APP 107E	Specialty Wiring ^A	3.0	4.0
APP 114E	Programmable Controllers ^A	3.0	4.0
APP 123E	Linear Electronics for Electricians ^A	3.0	4.0
CAD 220	Machine Design ^A	3.5	5.0
EGR 130	Team Design Project ^A	2.0	3.0
ELE 220	PC Base Data Acquisition & Control ^A	3.0	4.0
GEO 151, GEO 152	Introduction to GIS, Advanced GIS	3.0	4.0
IND 120	Industrial Networking ^A	3.0	4.0
IND 229	Hydraulic & Pneumatic Power ^A	3.0	4.0
MFG 101	Machining Processes I ^A	4.0	6.0
MTH 110 or MTH 113	Technical Math or Intermediate Algebra	3.0-4.0	4.0
MTH 112 or MTH 122	Technical Math II or Plane Trigonometry	3.0	3.0-4.0
MRT 101	Introduction to Submersible Robotics with Build ^A	3.0	4.0
MRT 110	Introduction to Careers on the Water ^A	2.0	3.0
MRT 210	ROV Piloting ^A	<u>2.0</u>	<u>3.0</u>
		CORE PROGRAM CREDITS/CONTACT HOURS:	47.0-48.0 63.5-64.5

SUGGESTED ELECTIVES (MEET WITH ACADEMIC ADVISOR TO DETERMINE ELECTIVES FOR CONCENTRATION AND TRANSFER)
Technical Elective options: APP 104E, APP 111E, APP 128M, CNS 170, GEO 151 & GEO 152, HST 140, MRT 201, PEH 104, PEH 105.

MINIMUM PROGRAM CREDITS/CONTACT HOURS: 60.5 76.5

SUGGESTED SEQUENCING OF COURSES					
YEAR 1 (SUMMER SEMESTER) <u>2.0</u> CREDITS				CREDITS	CONTACT HRS
MRT 110 Introduction to Careers on the Water				8.5	3.0
YEAR 1 (FALL SEMESTER) <u>15.5-16.5</u> CREDITS		CREDITS	CONTACT HRS	YEAR 1 (SPRING SEMESTER) <u>15.0</u> CREDITS	
MTH 110 Tech Math I or MTH 113 Inter Algebra	3.0-4.0	4.0	MTH112 Tech Math II or MTH122 Plane Trig	3.0	3.0-4.0
ENG 111 English Comp I or ENG120 Applied Comm	3.0	3.0	ENG112 English Comp II or ENG123 Tech Comm	3.0	3.0
APP 106M Industrial Safety	0.5	0.5	CAD 150 3D Modeling	3.0	4.0
IND 120 Industrial Networking	3.0	4.0	APP 114E Programmable Controllers	3.0	4.0
APP 101E Electrical Studies for Trades	3.0	4.0	APP 123E Linear Electronics for Elect	<u>3.0</u>	<u>4.0</u>
MRT 101 Intro to Submersible Robotics w/ Build	<u>3.0</u>	<u>4.0</u>	TOTAL	15.0	18.0-19.0
TOTAL	15.5-16.5	19.5			
YEAR 2 (SUMMER SEMESTER) <u>2.0</u> CREDITS				CREDITS	CONTACT HRS
MRT 210 ROV Piloting				2.0	3.0
YEAR 2 (FALL SEMESTER) <u>16.5-17.5</u> CREDITS		CREDITS	CONTACT HRS	YEAR 2 (SPRING SEMESTER) <u>14.0-17.0</u> CREDITS	
PHY 222 Applied Physics or PHY 121 College Physics	3.0-4.0	4.0-6.0	EGR 130 Team Design Project	2.0	3.0
MFG 101 Machining Processes I	4.0	6.0	ELE 220 PC Base Data Acquisition & Control	3.0	4.0
IND 229 Hydraulic & Pneumatic Power	3.0	4.0	GEO 151, GEO 152 Intro to GIS, Adv GIS	3.0	4.0
CAD 220 Machine Design	3.5	5.0	American Government Requirement	3.0-6.0	3.0-6.0
APP 107E Specialty Wiring	<u>3.0</u>	<u>4.0</u>	Technical Elective	<u>3.0</u>	<u>4.0</u>
TOTAL	16.5-17.5	23.0-25.0	TOTAL	14.0-17.0	18.0-21.0

NOTES:

^AIncluded in occupational specialty – GPA of 2.0 or higher must be maintained in the area of occupational specialty.