

MARITIME - POWER SYSTEMS, BACHELOR OF SCIENCE

Great Lakes Maritime Academy

NMC Code 860

The Power Systems Program is designed to prepare individuals for employment in power production industries such as power plants, hospitals, industrial plants, and manufacturing plants. Operators in such industries read, interpret and adjust meters and gauges to make sure plant equipment and processes are working properly. Some operate chemical-feeding devices, take samples of the water or liquid waste, perform chemical and biological laboratory analysis and adjust the amount of chemicals such as chlorine in the water. Some use a variety of instruments to sample and measure water quality and common hand and power tools to make repairs. Operators also make repairs to valves, pumps and other equipment. As facilities become more sophisticated and industry demands more from those individuals who maintain and operate these physical plants, there is a need for intense technical training for these positions. Students at the Great Lakes Maritime Academy obtain these goals through classes in mathematics, science and occupational courses. Cadets also have hands-on experience through labs and internships for practical training.

Requirements

Major Requirements

Course	Title	Credits
General Education Requirements		
ENG 111	English Composition	4
ENG 220	Technical Writing	3
Any Group 1 Humanities Course		3
Math Competency ¹		7
CHM 101	Introductory Chemistry	4
Any Group 1 Social Science Course		3
Occupational Specialty Requirements		
DD 110	Basic Metallurgy	3
EET 221	Industrial Controls	3
EET 232	Programmable Logic Controllers	3
MGT 241	Principles of Management	3
MNG 104	Engine Systems Graphics	3
MNG 105	Shipboard Information Systems	3
MNG 110	Engineering Mechanics	3
MNG 234	Electronic Fundamentals	4
MNG 250	Fluid Systems	3
MNG 260	Maritime Machining	2
MNG 270	Issues in Power Production	3
MNG 271 & 271L	Maritime Welding and Maritime Welding Lab	2
MNG 275	Refrigeration	3
MNG 321	Marine Boilers	3.5
MNG 322	Marine Turbines	2.5

MNG 323	Marine Steam Lab	1
MNG 335	Electric Machines and Controls	4
MNG 336	Electric Mach. & Controls Lab	2
Internship I		6
Internship II		6
Internship III		3
GLMA Program Electives		30
Total Credits		120

¹ Placement into MTH 141 Calculus I **or** higher, **or** completion of MTH 121 College Algebra and MTH 122 Trigonometry.

Course Sequence Guide

Course	Title	Credits
Year 1		
Pre-Fall		
MDK 100	Survival at Sea ¹	1
MNG 100	Intro to Vessel Operations ¹	1
Credits		2
Fall		
MNG 104	Engine Systems Graphics	3
MNG 105	Shipboard Information Systems	3
ENG 111	English Composition	4
MTH 121	College Algebra	4
Credits		14
Spring		
MTH 122	Trigonometry	3
MNG 234	Electronic Fundamentals	4
MNG 314	Diesel Engineering	7
ENG 220	Technical Writing ²	3
Credits		17
Summer		
MNG 318	Engineering Sea Project II (Internship)	6
Credits		6
Year 2		
Fall		
MNG 250	Fluid Systems	3
MNG 260	Maritime Machining	2
MNG 335	Electric Machines and Controls	4
MNG 336	Electric Mach. & Controls Lab	2
CHM 101	Introductory Chemistry	4
Credits		15
Spring		
MNG 105	Shipboard Information Systems	3
EET 221	Industrial Controls	3
MNG 271	Maritime Welding	2
MNG 321	Marine Boilers	3.5
MNG 322	Marine Turbines	2.5
MNG 323	Marine Steam Lab	1
Credits		15

Summer		
No Classes		
Credits		0
Year 3		
Fall		
MNG 319	Engineering Sea Project III (Internship)	6
Credits		6
Spring		
MNG 275	Refrigeration	3
MNG 270	Issues in Power Production	3
EET 232	Programmable Logic Controllers	3
DD 110	Basic Metallurgy	3
MDK 330	Medical First Aid Provider	2
Credits		14
Summer		
MNG 317	Engineering Sea Project I (Internship)	3
Credits		3
Year 4		
Fall		
NMC Humanities Elec (GRP 1)		3
NMC Social Science Elec (GRP 1)		3
MGT 241	Principles of Management	3
NMC Program Elective		3
NMC Program Elective		3
Credits		15
Spring		
NMC Program Elective		3
NMC Program Elective		3
NMC Program Elective		3
NMC Program Elective		3
NMC Program Elective		3
Credits		15
Total Credits		122

BSMT requires 120 credit hours. Classes indicated as "TO" (tested out of) or "W" (waived) must be replaced with classes approved by the department head. A "T" indicates a class that has transferred.

¹ **Mandatory** orientation also done at this time

² ENG 112 English Composition may be substituted for ENG 220 Technical Writing.

Additional Requirements/Certifications

- First Aid/CPR/AED
- Personal Safety & Social Responsibility Training
- MDK 100 Survival at Sea completion date
- Orientation Completion Date¹

¹ **Mandatory** orientation also done at this time

Course	Title	Credits
MNG/MDK and Internship Credit Hours		65
NMC Credit Hours		57
Total Credits		122