



**MARITIME COLLEGE**  
**UNDERGRADUATE**  
**DEGREE CURRICULA**

For Students Entering  
Maritime College  
During  
2013 - 2014 Academic Year

As of 8/24/2013

## UNDERGRADUATE DEGREE CURRICULA

Bachelor of Engineering (common freshman year)

Electrical Engineering - Deck License

Electrical Engineering - Engine License

Electrical Engineering - Intern Option

Facilities Engineering - Engine License

Facilities Engineering - Intern Option

Marine Engineering - Engine License

Mechanical Engineering - Engine License

Mechanical Engineering - Intern Option

Naval Architecture - Deck License

Naval Architecture - Engine License

Naval Architecture - Intern Option

Bachelor of Science in International Transportation and Trade (ITT) - Intern (common first two years)

ITT

ITT with Minor in Business Communications

ITT with Minor in Intermodal and Maritime Security

ITT 2-year program for transfer students

Bachelor of Science in Marine Business and Commerce with Humanities Concentration - Deck License

Bachelor of Science in Marine Environmental Science - MarineBiology Minor - Deck License

Bachelor of Science in Marine Environmental Science - MarineBiology Minor - Intern Option

Bachelor of Science in Marine Environmental Science - Meteorology & Oceanography Minor - Deck License

Bachelor of Science in Marine Environmental Science - Meteorology & Oceanography Minor - Intern Option

Bachelor of Science in Marine Operations - Deck License

Bachelor of Science in Marine Operations - Engine License

Bachelor of Science in Marine Transportation (MT) - Deck License (common first two years)

MT

MT - Ship Management Minor

Bachelor of Science in Maritime Studies - Intern Option

Associate in Applied Science in Marine Technology: Small Vessel Operations - Assistant Engineer Limited License

Associate in Applied Science in Marine Technology: Small Vessel Operations - Deck Limited License

## Degree Curricula Notes

*A student is responsible for knowing when his/her required courses are offered, as shown in the published curricula, course descriptions, and curricula flow.*

General Remarks

Each degree curriculum in this document is provided as a reference showing all course requirements arranged in a model sequence. All bachelor's degrees leading to USCG licensure also require passing the relevant license exams.

A student's individual degree plan may divert from the published curriculum, but must take into account the following:

- *A course may be offered only in certain semesters.*
- *Course prerequisites and corequisites must be honored.*

The semester scheduling of course offerings is available in both this document and the accompanying course descriptions document. Course prerequisites/corequisites are available in the accompanying Course Descriptions file. The resulting "flow of courses" for each curriculum can be found in the accompanying Curricula Flow document.

Rules about Curriculum Changes

(Students are normally required to follow the policies below. Students may appeal in a timely fashion for waivers through the department chair and Provost.)

1. **Grandfather clause:** A student is expected to complete his/her major curriculum as specified at the time of matriculation. A student may choose to follow a later curriculum, but the student must complete all of the requirements of that later curriculum.
2. **Readmission rule:** A readmitted student follows the curriculum in effect at the time the student returns to studies. (The only departure from the school that does not require readmission is an official leave of absence.)
3. **Change of major rule:** When a student changes major, he/she must change to the curriculum in effect at the time of the change.
4. **Regulatory change rule:** If a regulatory body (such as the U.S. Coast Guard or ABET) institutes new requirements that change the student's curriculum, the student must complete the new requirements.

## Bachelor of Engineering Engine License or Intern Option Common Freshman Curriculum

This page shows the first year for all Bachelor of Engineering students taking Engine License or Intern Option.  
Courses in **bold** are typically limited to the semester in which they appear.

### Freshman Year

<b>Fall Semester</b>		<b>cr.</b>	
CHEM 121	General Chemistry I	3	
CHEM 122	General Chemistry I Laboratory	1	
ENGL 101	Freshman English I	3	
LEAD 101	Leadership/Maritime Experience	1	
MATH 101	Calculus I	4	
PE 103	Water Safety & Survival	1	
PS 111	Professional Studies	2	
PS 112	Basic Safety Training	2	
<b>Total Credits:</b>		<b>17</b>	

<b>Spring Semester</b>		<b>cr.</b>	
CHEM 212	Materials Science I	3	
ENGL 103	Freshman English II for Engineers	3	
ENGR 100	Engineering Graphics	1	
<b>ENGR 540</b>	<b>Intro to Ship Systems</b>	<b>3</b>	
MATH 102	Calculus II	4	
PE 101	Lifetime Fitness & Conditioning	1	
PHYS 102	Engineering Physics I	4	
<b>Total Credits:</b>		<b>19</b>	

<b>ENGR 510</b>	<b>Summer Sea Term I</b>	<b>6</b>	
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Engineering Students pursuing the Intern Option may substitute 6 credits

(Applied Engineering electives – typically in Jr., Sr. years) for ENGR 510.

An Intern Option Student who is not in the Regiment is not permitted on the Training Ship and therefore must make this substitution.

## Bachelor of Engineering Deck License Common Freshman Curriculum

This page shows the first year for all Bachelor of Engineering students taking Deck License.

### Freshman Year

<b>Fall Semester</b>		<b>cr.</b>	
CHEM 121	General Chemistry I	3	
CHEM 122	General Chemistry I Laboratory	1	
ENGL 101	Freshman English I	3	
ENGR 100	Engineering Graphics	1	
LEAD 101	Leadership/Maritime Experience	1	
MATH 101	Calculus I	4	
PE 103	Water Safety & Survival	1	
PS 111	Professional Studies	2	
PS 112	Basic Safety Training	2	
<b>Total Credits:</b>		<b>18</b>	

<b>Spring Semester</b>		<b>cr.</b>	
CHEM 212	Materials Science I	3	
ENGL 103	Freshman English II for Engineers	3	
MATH 102	Calculus II	4	
NAUT 102	IntroVesselOps & Seamanship	1	
NAVG 112	Terrestrial Navigation	4	
PHYS 102	Engineering Physics I	4	
<b>Total Credits:</b>		<b>19</b>	

<b>MT 510</b>	<b>Summer Sea Term I</b>	<b>6</b>	
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## Bachelor of Engineering Electrical Engineering - Deck License Lower Division

### Freshman Year

	Fall Semester	cr.	
CHEM 121	General Chemistry I	3	
CHEM 122	General Chemistry I Laboratory	1	
ENGL 101	Freshman English I	3	
ENGR 100	Engineering Graphics	1	
LEAD 101	Leadership/Maritime Experience	1	
MATH 101	Calculus I	4	
PE 103	Water Safety & Survival	1	
PS 111	Professional Studies	2	
PS 112	Basic Safety Training	2	
	<b>Total Credits:</b>	<b>18</b>	

	Spring Semester	cr.	
CHEM 212	Materials Science I	3	
ENGL 103	Freshman English II for Engineers	3	
MATH 102	Calculus II	4	
NAUT 102	IntroVesselOps & Seamanship	1	
NAVG 112	Terrestrial Navigation	4	
PHYS 102	Engineering Physics I	4	
	<b>Total Credits:</b>	<b>19</b>	

<b>MT 510</b>	<b>Summer Sea Term I</b>	<b>6</b>	
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### Sophomore Year

	Fall Semester	cr.	
ENGR 242	Statics	3	
HUMN 201	World Literature & Culture I	3	
MATH 211	Calculus III	4	
METE 201	Meteorology for Mariners	3	
PE 101	Lifetime Fitness & Conditioning	1	
PHYS 201	Engineering Physics II	4	
PHYS 202	Engineering Physics Lab	1	
	<b>Total Credits:</b>	<b>19</b>	

	Spring Semester	cr.	
ENGR 200	Intro to Engineering Analysis	2	
ENGR 290	Electrical Engineering I	3	
HIST 101	American Civilization I	3	
HUMN 202	World Literature & Culture II	3	
MATH 212	Differential Equations	4	
NAVG 212	Celestial Navigation	4	
	<b>Total Credits:</b>	<b>19</b>	

<b>MT 520</b>	<b>Summer Sea Term II</b>	<b>6</b>	
<b>MT 521</b>	<i>or</i> <b>Cadet Commercial Vessel Shipping</b>		

**Total Lower Division Credits: 87**

#### Engineering Department Lower Division Competency Requirement

B.E. Engineering students must satisfy a lower division competency requirement. Students must achieve a minimum mastery level in defined subject areas prior to achieving the status of matriculated upper division student. The required standard is a 2.0 GPA in each of the following lower division subsets.

- Humanities:** ENGL101, ENGL103; HUMN201, HUMN202
- Mathematics:** MATH101, MATH102, MATH211, MATH212
- Science:** PHYS102, PHYS201, PHYS202, CHEM121, CHEM122, CHEM212
- Engineering:** ENGR242, ENGR244\*, ENGR290

\*Specific courses may be excluded from subset GPA calculation if the student's engineering program does not require the courses for junior level work.

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**Engineering Department Lower Division Competency Requirement**

(Continued)

Students who do not achieve the minimum subset GPA should expect to be required to remediate in subset area(s) prior to becoming eligible for removal from remediation status. Students in remediation status must have a corrective program developed in conjunction with their faculty advisor and approved by the respective area Chair and the Engineering Department Chair. Students who at any time have a subset average between 1.7 and 2.0 may be given a subset warning and; should expect to be required to repeat one or more subset courses as part of the remediation process. Students with subset averages below 1.7 will be required to repeat one or more subset courses as part of the remediation process. At the discretion of the Engineering Department chair students may be allowed to "test out" of remediation status. Students in remediation status will not be allowed to register for upper division courses in their major. Additional registration restrictions will be imposed on students on academic probation or restricted registration status.

**Bachelor of Engineering  
Electrical Engineering - Deck License  
Upper Division**

Courses in **bold** are typically limited to the semester in which they appear.

**Junior Year**

	<b>Fall Semester</b>	<b>cr.</b>	
ENGR 345	Engineering Statistical Analysis	3	
<b>ENGR 383</b>	<b>Network Analysis</b>	<b>3</b>	
<b>ENGR 387</b>	<b>Electronics I</b>	<b>4</b>	
<b>ENGR 394</b>	<b>Electro Magnetic Fields</b>	<b>3</b>	
NAUT 314	Rules of the Road	2	
NAUT 315	Collision Avoidance	3	
	<b>Total Credits:</b>	<b>18</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
<b>ENGR 384</b>	<b>Power Electronics</b>	<b>3</b>	
<b>ENGR 388</b>	<b>Electronics II</b>	<b>4</b>	
<b>ENGR 395</b>	<b>Electric Machines</b>	<b>3</b>	
MT 250	Ship Construction and Stability	2	
NAUT 308	Nautical Operations: Safety	2	
NAVG 312	Electr Nav & Voyage Planning	4	
	<b>Total Credits:</b>	<b>18</b>	

<b>MT 530</b>	<b>Summer Sea Term III</b>	<b>5</b>	
PE 411	Medical Care Provider	1	

**Senior Year**

	<b>Fall Semester</b>	<b>cr.</b>	
ENGR 443	Engineering Economics	3	
<b>ENGR 481</b>	<b>Communications Theory</b>	<b>3</b>	
<b>ENGR 484</b>	<b>Electric Drives</b>	<b>3</b>	
<b>ENGR 488</b>	<b>Electrical Design I</b>	<b>4</b>	
HIST 102	American Civilization II	3	
MT 321	Intro to Cargo Ops & Stability	3	
	<b>Total Credits:</b>	<b>19</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
<b>ENGR 428</b>	<b>Computerized Control Systems</b>	<b>3</b>	
<b>ENGR 483</b>	<b>Control Systems Theory</b>	<b>3</b>	
<b>ENGR 489</b>	<b>Electrical Design II</b>	<b>4</b>	
<b>ENGR 495</b>	<b>Marine Electrical Sysytem</b>	<b>3</b>	
MT 322	Marine Cargo Operations	3	
PE 2xx	Lifetime Sports	1	
	<b>Total Credits:</b>	<b>17</b>	

	<b>9th Semester</b>	<b>cr.</b>	
MT 412	Deck License Seminar	4	
MT 426	Maritime Communications	3	
NAUT 416	Bridge Watchstanding	3	
	Humanities or SocSci elective	3	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>16</b>	

**Total Credits for Degree:****181**

## Bachelor of Engineering Electrical Engineering - Engine License Lower Division

Courses in **bold** are typically limited to the semester in which they appear.

### Freshman Year

<b>Fall Semester</b>		<b>cr.</b>	
CHEM 121	General Chemistry I	3	
CHEM 122	General Chemistry I Laboratory	1	
ENGL 101	Freshman English I	3	
LEAD 101	Leadership/Maritime Experience	1	
MATH 101	Calculus I	4	
PE 103	Water Safety & Survival	1	
PS 111	Professional Studies	2	
PS 112	Basic Safety Training	2	
<b>Total Credits:</b>		<b>17</b>	

<b>Spring Semester</b>		<b>cr.</b>	
CHEM 212	Materials Science I	3	
ENGL 103	Freshman English II for Engineers	3	
ENGR 100	Engineering Graphics	1	
<b>ENGR 540</b>	<b>Intro to Ship Systems</b>	<b>3</b>	
MATH 102	Calculus II	4	
PE 101	Lifetime Fitness & Conditioning	1	
PHYS 102	Engineering Physics I	4	
<b>Total Credits:</b>		<b>19</b>	

<b>ENGR 510</b>	<b>Summer Sea Term I</b>	<b>6</b>	
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### Sophomore Year

<b>Fall Semester</b>		<b>cr.</b>	
ENGR 242	Statics	3	
ENGR 503	Manufacturing Processes I	1	
<b>ENGR 541</b>	<b>Ship Systems I</b>	<b>2</b>	
HUMN 201	World Literature & Culture I	3	
MATH 211	Calculus III	4	
PHYS 201	Engineering Physics II	4	
PHYS 202	Engineering Physics Lab	1	
<b>Total Credits:</b>		<b>18</b>	

<b>Spring Semester</b>		<b>cr.</b>	
ENGR 200	Intro to Engineering Analysis	2	
ENGR 290	Electrical Engineering I	3	
HIST 101	American Civilization I	3	
ENGR 504	Manufacturing Processes II	1	
<b>ENGR 542</b>	<b>Ship Systems II</b>	<b>2</b>	
HUMN 202	World Literature & Culture II	3	
MATH 212	Differential Equations	4	
<b>Total Credits:</b>		<b>18</b>	

<b>ENGR 520</b>	<b>Summer Sea Term II</b>	<b>6</b>	
<b>ENGR 521</b>	<b>Cadet Commercial Vessel Shipping</b>		

**Total Lower Division Credits: 84**

#### Engineering Department Lower Division Competency Requirement

B.E. Engineering students must satisfy a lower division competency requirement. Students must achieve a minimum mastery level in defined subject areas prior to achieving the status of matriculated upper division student. The required standard is a 2.0 GPA in each of the following lower division subsets.

- Humanities:** ENGL101, ENGL103; HUMN201, HUMN202
- Mathematics:** MATH101, MATH102, MATH211, MATH212
- Science:** PHYS102, PHYS201, PHYS202, CHEM121, CHEM122, CHEM212
- Engineering:** ENGR242, ENGR244\*, ENGR290

\*Specific courses may be excluded from subset GPA calculation if the student's engineering program does not require the courses for junior level work.

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**Engineering Department Lower Division Competency Requirement**

(Continued)

Students who do not achieve the minimum subset GPA should expect to be required to remediate in subset area(s) prior to becoming eligible for removal from remediation status. Students in remediation status must have a corrective program developed in conjunction with their faculty advisor and approved by the respective area Chair and the Engineering Department Chair. Students who at any time have a subset average between 1.7 and 2.0 may be given a subset warning and; should expect to be required to repeat one or more subset courses as part of the remediation process. Students with subset averages below 1.7 will be required to repeat one or more subset courses as part of the remediation process. At the discretion of the Engineering Department chair students may be allowed to “test out” of remediation status. Students in remediation status will not be allowed to register for upper division courses in their major. Additional registration restrictions will be imposed on students on academic probation or restricted registration status.

**Bachelor of Engineering  
Electrical Engineering - Engine License  
Upper Division**

Courses in **bold** are typically limited to the semester in which they appear.

**Junior Year**

	<b>Fall Semester</b>	<b>cr.</b>	
ENGR 345	Engineering Statistical Analysis	3	
ENGR 371	Applied Naval Architecture	3	
<b>ENGR 383</b>	<b>Network Analysis</b>	<b>3</b>	
<b>ENGR 387</b>	<b>Electronics I</b>	<b>4</b>	
<b>ENGR 394</b>	<b>Electromagnetic Fields</b>	<b>3</b>	
<b>ENGR 543</b>	<b>Ship Systems III</b>	<b>3</b>	
	<b>Total Credits:</b>	<b>19</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
<b>ENGR 384</b>	<b>Power Electronics</b>	<b>3</b>	
<b>ENGR 388</b>	<b>Electronics II</b>	<b>4</b>	
<b>ENGR 395</b>	<b>Electric Machines</b>	<b>3</b>	
<b>ENGR 544</b>	<b>Ship Systems IV</b>	<b>3</b>	
HIST 102	American Civilization II	3	
NAUT 308	Nautical Operations: Safety	2	
	<b>Total Credits:</b>	<b>18</b>	

<b>ENGR 530</b>	<b>Summer Sea Term III</b>	<b>5</b>	
ENGR 516	Engine License Seminar	0	
PE 411	Medical Care Provider	1	

**Senior Year**

	<b>Fall Semester</b>	<b>cr.</b>	
<b>ENGR 481</b>	<b>Communications Theory</b>	<b>3</b>	
<b>ENGR 484</b>	<b>Electric Drives</b>	<b>3</b>	
<b>ENGR 488</b>	<b>Electrical Design I</b>	<b>4</b>	
PE 2xx	Lifetime Sports	1	
	Engr/Sci elective	3	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>17</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
<b>ENGR 428</b>	<b>Computerized Control Systems</b>	<b>3</b>	
ENGR 443	Engineering Economics	3	
<b>ENGR 483</b>	<b>Control Systems Theory</b>	<b>3</b>	
<b>ENGR 489</b>	<b>Electrical Design II</b>	<b>4</b>	
<b>ENGR 495</b>	<b>Marine Electrical Systems</b>	<b>3</b>	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>19</b>	

**Total Credits for Degree:****163**

**Engr/Sci elective: any ENGR course numbered 300, 400 or 600 or any course in computer science, oceanography or mathematics approved by the Science Department.**

## Bachelor of Engineering Electrical Engineering - Intern Lower Division

Courses in **bold** are typically limited to the semester in which they appear.

### Freshman Year

	<b>Fall Semester</b>	<b>cr.</b>	
CHEM 121	General Chemistry I	3	
CHEM 122	General Chemistry I Laboratory	1	
ENGL 101	Freshman English I	3	
LEAD 101	Leadership/Maritime Experience	1	
MATH 101	Calculus I	4	
PE 103	Water Safety & Survival	1	
PS 111	Professional Studies	2	
PS 112	Basic Safety Training	2	
	<b>Total Credits:</b>	<b>17</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
CHEM 212	Materials Science I	3	
ENGL 103	Freshman English II for Engineers	3	
ENGR 100	Engineering Graphics	1	
<b>ENGR 540</b>	<b>Intro to Ship Systems</b>	<b>3</b>	
MATH 102	Calculus II	4	
PE 101	Lifetime Fitness & Conditioning	1	
PHYS 102	Engineering Physics I	4	
	<b>Total Credits:</b>	<b>19</b>	

Engineering Students pursuing the Intern Option may substitute 6 credits (Applied Engineering electives – typically in Jr., Sr. years) for ENGR 510.

<b>ENGR 510</b>	<b>Summer Sea Term I</b>	<b>6</b>	
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An Intern Option Student who is not in the Regiment is not permitted on the Training Ship and therefore must make this substitution.

### Sophomore Year

	<b>Fall Semester</b>	<b>cr.</b>	
ENGR 242	Statics	3	
HUMN 201	World Literature & Culture I	3	
MATH 211	Calculus III	4	
PHYS 201	Engineering Physics II	4	
PHYS 202	Engineering Physics Lab	1	
	Applied Engineering elective	3	
	<b>Total Credits:</b>	<b>18</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
ENGR 200	Intro to Engineering Analysis	2	
ENGR 290	Electrical Engineering I	3	
HIST 101	American Civilization I	3	
HUMN 202	World Literature & Culture II	3	
MATH 212	Differential Equations	4	
	Applied Engineering elective	3	
	<b>Total Credits:</b>	<b>18</b>	

<b>ENGR 525</b>	<b>Industrial Internship I</b>	<b>6</b>	
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**Total Lower Division Credits: 84**

#### Engineering Department Lower Division Competency Requirement

B.E. Engineering students must satisfy a lower division competency requirement. Students must achieve a minimum mastery level in defined subject areas prior to achieving the status of matriculated upper division student. The required standard is a 2.0 GPA in each of the following lower division subsets.

- Humanities:** ENGL101, ENGL103; HUMN201, HUMN202
- Mathematics:** MATH101, MATH102, MATH211, MATH212
- Science:** PHYS102, PHYS201, PHYS202, CHEM121, CHEM122, CHEM212
- Engineering:** ENGR242, ENGR244\*, ENGR290

\*Specific courses may be excluded from subset GPA calculation if the student's engineering program does not require the courses for junior level work.

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**Engineering Department Lower Division Competency Requirement**

(Continued)

Students who do not achieve the minimum subset GPA should expect to be required to remediate in subset area(s) prior to becoming eligible for removal from remediation status. Students in remediation status must have a corrective program developed in conjunction with their faculty advisor and approved by the respective area Chair and the Engineering Department Chair. Students who at any time have a subset average between 1.7 and 2.0 may be given a subset warning and; should expect to be required to repeat one or more subset courses as part of the remediation process. Students with subset averages below 1.7 will be required to repeat one or more subset courses as part of the remediation process. At the discretion of the Engineering Department chair students may be allowed to "test out" of remediation status. Students in remediation status will not be allowed to register for upper division courses in their major. Additional registration restrictions will be imposed on students on academic probation or restricted registration status.

**Bachelor of Engineering  
Electrical Engineering - Intern  
Upper Division**

Courses in **bold** are typically limited to the semester in which they appear.

**Junior Year**

	<b>Fall Semester</b>	<b>cr.</b>	
ENGR 345	Engineering Statistical Analysis	3	
<b>ENGR 383</b>	<b>Network Analysis</b>	<b>3</b>	
<b>ENGR 387</b>	<b>Electronics I</b>	<b>4</b>	
<b>ENGR 394</b>	<b>Electromagnetic Fields</b>	<b>3</b>	
	Applied Engineering elective	3	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>19</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
<b>ENGR 384</b>	<b>Power Electronics</b>	<b>3</b>	
<b>ENGR 388</b>	<b>Electronics II</b>	<b>4</b>	
<b>ENGR 395</b>	<b>Electric Machines</b>	<b>3</b>	
HIST 102	American Civilization II	3	
	Applied Engineering elective	3	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>19</b>	

<b>ENGR 535</b>	<b>Industrial Internship II</b>	<b>6</b>	
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**Senior Year**

	<b>Fall Semester</b>	<b>cr.</b>	
ENGR 443	Engineering Economics	3	
<b>ENGR 481</b>	<b>Communications Theory</b>	<b>3</b>	
<b>ENGR 484</b>	<b>Electric Drives</b>	<b>3</b>	
<b>ENGR 488</b>	<b>Electrical Design I</b>	<b>4</b>	
PE 2xx	Lifetime Sports	1	
	Engr/Sci elective	3	
	<b>Total Credits:</b>	<b>17</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
<b>ENGR 428</b>	<b>Computerized Control Systems</b>	<b>3</b>	
<b>ENGR 483</b>	<b>Control Systems Theory</b>	<b>3</b>	
<b>ENGR 489</b>	<b>Electrical Design II</b>	<b>4</b>	
<b>ENGR 495</b>	<b>Marine Electrical Systems</b>	<b>3</b>	
	Engr/Sci elective	3	
	<b>Total Credits:</b>	<b>16</b>	

**Total Credits for Degree: 161**

**Applied Engineering elective: Any ENGR course numbered 300 or above.**

**Engr/Sci elective: any ENGR course numbered 300, 400 or 600 or any course in computer science, oceanography or mathematics approved by the Science Department.**

**Bachelor of Engineering  
Facilities Engineering - Engine License  
Lower Division**

Courses in **bold** are typically limited to the semester in which they appear.

**Freshman Year**

<b>Fall Semester</b>		<b>cr.</b>	
CHEM 121	General Chemistry I	3	
CHEM 122	General Chemistry I Laboratory	1	
ENGL 101	Freshman English I	3	
LEAD 101	Leadership/Maritime Experience	1	
MATH 101	Calculus I	4	
PE 103	Water Safety & Survival	1	
PS 111	Professional Studies	2	
PS 112	Basic Safety Training	2	
<b>Total Credits:</b>		<b>17</b>	

<b>Spring Semester</b>		<b>cr.</b>	
CHEM 212	Materials Science I	3	
ENGL 103	Freshman English II for Engineers	3	
ENGR 100	Engineering Graphics	1	
<b>ENGR 540</b>	<b>Intro to Ship Systems</b>	<b>3</b>	
MATH 102	Calculus II	4	
PE 101	Lifetime Fitness & Conditioning	1	
PHYS 102	Engineering Physics I	4	
<b>Total Credits:</b>		<b>19</b>	

<b>ENGR 510</b>	<b>Summer Sea Term I</b>	<b>6</b>	
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**Sophomore Year**

<b>Fall Semester</b>		<b>cr.</b>	
ENGR 242	Statics	3	
ENGR 503	Manufacturing Processes I	1	
<b>ENGR 541</b>	<b>Ship Systems I</b>	<b>2</b>	
HUMN 201	World Literature & Culture I	3	
MATH 211	Calculus III	4	
PHYS 201	Engineering Physics II	4	
PHYS 202	Engineering Physics Lab	1	
<b>Total Credits:</b>		<b>18</b>	

<b>Spring Semester</b>		<b>cr.</b>	
ENGR 200	Intro to Engineering Analysis	2	
ENGR 244	Dynamics	3	
ENGR 290	Electrical Engineering I	3	
ENGR 504	Manufacturing Processes II	1	
<b>ENGR 542</b>	<b>Ship Systems II</b>	<b>2</b>	
HUMN 202	World Literature & Culture II	3	
MATH 212	Differential Equations	4	
<b>Total Credits:</b>		<b>18</b>	

<b>ENGR 520</b>	<b>Summer Sea Term II</b>	<b>6</b>	
<b>ENGR 521</b>	<b>Cadet Commercial Vessel Shipping</b>		

**Total Lower Division Credits: 84**

**Engineering Department Lower Division Competency Requirement**

B.E. Engineering students must satisfy a lower division competency requirement. Students must achieve a minimum mastery level in defined subject areas prior to achieving the status of matriculated upper division student. The required standard is a 2.0 GPA in each of the following lower division subsets.

**Humanities:** ENGL101, ENGL103; HUMN201, HUMN202  
**Mathematics:** MATH101, MATH102, MATH211, MATH212  
**Science:** PHYS102, PHYS201, PHYS202, CHEM121, CHEM122, CHEM212  
**Engineering:** ENGR242, ENGR244\*, ENGR290

\*Specific courses may be excluded from subset GPA calculation if the student's engineering program does not require the courses for junior level work.

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**Engineering Department Lower Division Competency Requirement**

(Continued)

Students who do not achieve the minimum subset GPA should expect to be required to remediate in subset area(s) prior to becoming eligible for removal from remediation status. Students in remediation status must have a corrective program developed in conjunction with their faculty advisor and approved by the respective area Chair and the Engineering Department Chair. Students who at any time have a subset average between 1.7 and 2.0 may be given a subset warning and; should expect to be required to repeat one or more subset courses as part of the remediation process. Students with subset averages below 1.7 will be required to repeat one or more subset courses as part of the remediation process. At the discretion of the Engineering Department chair students may be allowed to “test out” of remediation status. Students in remediation status will not be allowed to register for upper division courses in their major. Additional registration restrictions will be imposed on students on academic probation or restricted registration status.

**Bachelor of Engineering  
Facilities Engineering - Engine License  
Upper Division**

Courses in **bold** are typically limited to the semester in which they appear.

**Junior Year**

<b>Fall Semester</b>		<b>cr.</b>	
ENGR 341	Fluid Mechanics	3	
ENGR 344	Thermodynamics	3	
ENGR 345	Engineering Statistical Analysis	3	
ENGR 380	Electrical Engineering II	3	
<b>ENGR 543</b>	<b>Ship Systems III</b>	<b>3</b>	
HIST 101	American Civilization I	3	
	<b>Total Credits:</b>	<b>18</b>	

<b>Spring Semester</b>		<b>cr.</b>	
ENGR 347	Strength of Materials	3	
ENGR 351	Heat Transfer	3	
ENGR 354	Marine Engineering Design I	3	
ENGR 390	Electrical Engineering III	3	
<b>ENGR 544</b>	<b>Ship Systems IV</b>	<b>3</b>	
HIST 102	American Civilization II	3	
NAUT 308	Nautical Operations: Safety	2	
	<b>Total Credits:</b>	<b>20</b>	

<b>ENGR 530</b>	<b>Summer Sea Term III</b>	<b>5</b>	
ENGR 516	Engine License Seminar	0	
PE 411	Medical Care Provider	1	

**Senior Year**

<b>Fall Semester</b>		<b>cr.</b>	
ENGR 350	Analog Controls	3	
<b>ENGR 423</b>	<b>HVAC System Design</b>	<b>3</b>	
<b>ENGR 425</b>	<b>Facilities Engr Design I</b>	<b>4</b>	
ENGR 443	Engineering Economics	3	
PE 2xx	Lifetime Sports	1	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>17</b>	

<b>Spring Semester</b>		<b>cr.</b>	
ENGR 348	Strength of Materials Lab	1	
<b>ENGR 349</b>	<b>Transport Processes Laboratory</b>	<b>1</b>	
ENGR 371	Applied Naval Architecture	3	
<b>ENGR 426</b>	<b>Facilities Engr Design II</b>	<b>4</b>	
<b>ENGR 444</b>	<b>Project Management</b>	<b>3</b>	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>15</b>	

**Total Credits for Degree: 160**

**Engr/Sci elective: any ENGR course numbered 300, 400 or 600 or any course in computer science, oceanography or mathematics approved by the Science Department.**

## Bachelor of Engineering Facilities Engineering - Intern Lower Division

Courses in **bold** are typically limited to the semester in which they appear.

### Freshman Year

Fall Semester		cr.	
CHEM 121	General Chemistry I	3	
CHEM 122	General Chemistry I Laboratory	1	
ENGL 101	Freshman English I	3	
LEAD 101	Leadership/Maritime Experience	1	
MATH 101	Calculus I	4	
PE 103	Water Safety & Survival	1	
PS 111	Professional Studies	2	
PS 112	Basic Safety Training	2	
<b>Total Credits:</b>		<b>17</b>	

Spring Semester		cr.	
CHEM 212	Materials Science I	3	
ENGL 103	Freshman English II for Engineers	3	
ENGR 100	Engineering Graphics	1	
<b>ENGR 540</b>	<b>Intro to Ship Systems</b>	<b>3</b>	
MATH 102	Calculus II	4	
PE 101	Lifetime Fitness & Conditioning	1	
PHYS 102	Engineering Physics I	4	
<b>Total Credits:</b>		<b>19</b>	

Engineering Students pursuing the Intern Option may substitute 6 credits (Applied Engineering electives – typically in Jr., Sr. years) for ENGR 510.

<b>ENGR 510</b>	<b>Summer Sea Term I</b>	<b>6</b>	
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An Intern Option Student who is not in the Regiment is not permitted on the Training Ship and therefore must make this substitution.

### Sophomore Year

Fall Semester		cr.	
ENGR 242	Statics	3	
HIST 101	American Civilization I	3	
HUMN 201	World Literature & Culture I	3	
MATH 211	Calculus III	4	
PHYS 201	Engineering Physics II	4	
PHYS 202	Engineering Physics Lab	1	
<b>Total Credits:</b>		<b>18</b>	

Spring Semester		cr.	
ENGR 200	Intro to Engineering Analysis	2	
ENGR 244	Dynamics	3	
ENGR 290	Electrical Engineering I	3	
HUMN 202	World Literature & Culture II	3	
MATH 212	Differential Equations	4	
HIST 102	American Civilization II	3	
<b>Total Credits:</b>		<b>18</b>	

<b>ENGR 525</b>	<b>Industrial Internship I</b>	<b>6</b>	
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**Total Lower Division Credits: 84**

#### Engineering Department Lower Division Competency Requirement

B.E. Engineering students must satisfy a lower division competency requirement. Students must achieve a minimum mastery level in defined subject areas prior to achieving the status of matriculated upper division student. The required standard is a 2.0 GPA in each of the following lower division subsets.

- Humanities:** ENGL101, ENGL103; HUMN201, HUMN202
- Mathematics:** MATH101, MATH102, MATH211, MATH212
- Science:** PHYS102, PHYS201, PHYS202, CHEM121, CHEM122, CHEM212
- Engineering:** ENGR242, ENGR244\*, ENGR290

\*Specific courses may be excluded from subset GPA calculation if the student's engineering program does not require the courses for junior level work.

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**Engineering Department Lower Division Competency Requirement**

(Continued)

Students who do not achieve the minimum subset GPA should expect to be required to remediate in subset area(s) prior to becoming eligible for removal from remediation status. Students in remediation status must have a corrective program developed in conjunction with their faculty advisor and approved by the respective area Chair and the Engineering Department Chair. Students who at any time have a subset average between 1.7 and 2.0 may be given a subset warning and; should expect to be required to repeat one or more subset courses as part of the remediation process. Students with subset averages below 1.7 will be required to repeat one or more subset courses as part of the remediation process. At the discretion of the Engineering Department chair students may be allowed to “test out” of remediation status. Students in remediation status will not be allowed to register for upper division courses in their major. Additional registration restrictions will be imposed on students on academic probation or restricted registration status.

**Bachelor of Engineering  
Facilities Engineering - Intern  
Upper Division**

Courses in **bold** are typically limited to the semester in which they appear.

**Junior Year**

	<b>Fall Semester</b>	<b>cr.</b>	
ENGR 341	Fluid Mechanics	3	
ENGR 344	Thermodynamics	3	
ENGR 345	Engineering Statistical Analysis	3	
ENGR 380	Electrical Engineering II	3	
	Applied Engineering elective	3	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>18</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
ENGR 347	Strength of Materials	3	
ENGR 351	Heat Transfer	3	
ENGR 354	Marine Engineering Design I	3	
ENGR 390	Electrical Engineering III	3	
	Applied Engineering elective	3	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>18</b>	

<b>ENGR 535</b>	<b>Industrial Internship II</b>	<b>6</b>	
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**Senior Year**

	<b>Fall Semester</b>	<b>cr.</b>	
ENGR 350	Analog Controls	3	
<b>ENGR 423</b>	<b>HVAC System Design</b>	<b>3</b>	
<b>ENGR 425</b>	<b>Facilities Engr Design I</b>	<b>4</b>	
ENGR 443	Engineering Economics	3	
PE 2xx	Lifetime Sports	1	
	Engr/Sci elective	3	
	<b>Total Credits:</b>	<b>17</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
ENGR 348	Strength of Materials Lab	1	
<b>ENGR 349</b>	<b>Transport Processes Laboratory</b>	<b>1</b>	
<b>ENGR 426</b>	<b>Facilities Engr Design II</b>	<b>4</b>	
<b>ENGR 444</b>	<b>Project Management</b>	<b>3</b>	
	Applied Engineering elective	3	
	Engr/Sci elective	3	
	<b>Total Credits:</b>	<b>15</b>	

**Total Credits for Degree: 158**

**Applied Engineering elective: Any ENGR course numbered 300 or above.**

**Engr/Sci elective: any ENGR course numbered 300, 400 or 600 or any course in computer science, oceanography or mathematics approved by the Science Department.**

**Bachelor of Engineering  
Marine Engineering - Engine License  
Lower Division**

Courses in **bold** are typically limited to the semester in which they appear.

**Freshman Year**

<b>Fall Semester</b>		<b>cr.</b>	
CHEM 121	General Chemistry I	3	
CHEM 122	General Chemistry I Laboratory	1	
ENGL 101	Freshman English I	3	
LEAD 101	Leadership/Maritime Experience	1	
MATH 101	Calculus I	4	
PE 103	Water Safety & Survival	1	
PS 111	Professional Studies	2	
PS 112	Basic Safety Training	2	
<b>Total Credits:</b>		<b>17</b>	

<b>Spring Semester</b>		<b>cr.</b>	
CHEM 212	Materials Science I	3	
ENGL 103	Freshman English II for Engineers	3	
ENGR 100	Engineering Graphics	1	
<b>ENGR 540</b>	<b>Intro to Ship Systems</b>	<b>3</b>	
MATH 102	Calculus II	4	
PE 101	Lifetime Fitness & Conditioning	1	
PHYS 102	Engineering Physics I	4	
<b>Total Credits:</b>		<b>19</b>	

<b>ENGR 510</b>	<b>Summer Sea Term I</b>	<b>6</b>	
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**Sophomore Year**

<b>Fall Semester</b>		<b>cr.</b>	
ENGR 242	Statics	3	
ENGR 503	Manufacturing Processes I	1	
<b>ENGR 541</b>	<b>Ship Systems I</b>	<b>2</b>	
HUMN 201	World Literature & Culture I	3	
MATH 211	Calculus III	4	
PHYS 201	Engineering Physics II	4	
PHYS 202	Engineering Physics Lab	1	
<b>Total Credits:</b>		<b>18</b>	

<b>Spring Semester</b>		<b>cr.</b>	
ENGR 200	Intro to Engineering Analysis	2	
ENGR 244	Dynamics	3	
ENGR 290	Electrical Engineering I	3	
ENGR 504	Manufacturing Processes II	1	
<b>ENGR 542</b>	<b>Ship Systems II</b>	<b>2</b>	
HUMN 202	World Literature & Culture II	3	
MATH 212	Differential Equations	4	
<b>Total Credits:</b>		<b>18</b>	

<b>ENGR 520</b>	<b>Summer Sea Term II</b>	<b>6</b>	
<b>ENGR 521</b>	<b>Cadet Commercial Vessel Shipping</b>		

**Total Lower Division Credits: 84**

**Engineering Department Lower Division Competency Requirement**

B.E. Engineering students must satisfy a lower division competency requirement. Students must achieve a minimum mastery level in defined subject areas prior to achieving the status of matriculated upper division student. The required standard is a 2.0 GPA in each of the following lower division subsets.

**Humanities:** ENGL101, ENGL103; HUMN201, HUMN202  
**Mathematics:** MATH101, MATH102, MATH211, MATH212  
**Science:** PHYS102, PHYS201, PHYS202, CHEM121, CHEM122, CHEM212  
**Engineering:** ENGR242, ENGR244\*, ENGR290

\*Specific courses may be excluded from subset GPA calculation if the student's engineering program does not require the courses for junior level work.

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**Engineering Department Lower Division Competency Requirement**

(Continued)

Students who do not achieve the minimum subset GPA should expect to be required to remediate in subset area(s) prior to becoming eligible for removal from remediation status. Students in remediation status must have a corrective program developed in conjunction with their faculty advisor and approved by the respective area Chair and the Engineering Department Chair. Students who at any time have a subset average between 1.7 and 2.0 may be given a subset warning and; should expect to be required to repeat one or more subset courses as part of the remediation process. Students with subset averages below 1.7 will be required to repeat one or more subset courses as part of the remediation process. At the discretion of the Engineering Department chair students may be allowed to "test out" of remediation status. Students in remediation status will not be allowed to register for upper division courses in their major. Additional registration restrictions will be imposed on students on academic probation or restricted registration status.

**Bachelor of Engineering  
Marine Engineering - Engine License  
Upper Division**

Courses in **bold** are typically limited to the semester in which they appear.

**Junior Year**

	<b>Fall Semester</b>	<b>cr.</b>	
ENGR 341	Fluid Mechanics	3	
ENGR 344	Thermodynamics	3	
ENGR 347	Strength of Materials	3	
ENGR 380	Electrical Engineering II	3	
<b>ENGR 543</b>	<b>Ship Systems III</b>	<b>3</b>	
HIST 101	American Civilization I	3	
NAUT 308	Nautical Operations: Safety	2	
	<b>Total Credits:</b>	<b>20</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
ENGR 345	Engineering Statistical Analysis	3	
ENGR 348	Strength of Materials Lab	1	
ENGR 351	Heat Transfer	3	
ENGR 354	Marine Engineering Design I	3	
ENGR 390	Electrical Engineering III	3	
<b>ENGR 544</b>	<b>Ship Systems IV</b>	<b>3</b>	
HIST 102	American Civilization II	3	
	<b>Total Credits:</b>	<b>19</b>	

<b>ENGR 530</b>	<b>Summer Sea Term III</b>	<b>5</b>	
ENGR 516	Engine License Seminar	0	
PE 411	Medical Care Provider	1	

**Senior Year**

	<b>Fall Semester</b>	<b>cr.</b>	
ENGR 371	Applied Naval Architecture	3	
<b>ENGR 440</b>	<b>Marine Engineering Design II</b>	<b>3</b>	
ENGR 443	Engineering Economics	3	
<b>ENGR 453</b>	<b>Modern Concepts</b>	<b>3</b>	
PE 2xx	Lifetime Sports	1	
	Engr/Sci elective A	3	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>19</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
<b>ENGR 349</b>	<b>Transport Processes Laboratory</b>	<b>1</b>	
ENGR 350	Analog Controls	3	
<b>ENGR 450</b>	<b>Marine Engineering Design III</b>	<b>3</b>	
<b>ENGR 495</b>	<b>Marine Electrical Systems</b>	<b>3</b>	
	Engr/Sci elective B	3	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>16</b>	

**Total Credits for Degree: 164**

**Courses currently offered for Engr/Sci electives A/B sequence in senior year****Engr/Sci elective A**

ENGR 311	Kinematics	3
ENGR 387	Electronics I	4
ENGR 601	Independent Study in Engr. I	3

**Engr/Sci elective B**

ENGR 312	Machine Design	3
ENGR 481	Communications Theory	3
ENGR 602	Independent Study in Engr. II	3

**Bachelor of Engineering  
Mechanical Engineering - Engine License  
Lower Division**

Courses in **bold** are typically limited to the semester in which they appear.

**Freshman Year**

	<b>Fall Semester</b>	<b>cr.</b>	
CHEM 121	General Chemistry I	3	
CHEM 122	General Chemistry I Laboratory	1	
ENGL 101	Freshman English I	3	
LEAD 101	Leadership/Maritime Experience	1	
MATH 101	Calculus I	4	
PE 103	Water Safety & Survival	1	
PS 111	Professional Studies	2	
PS 112	Basic Safety Training	2	
	<b>Total Credits:</b>	<b>17</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
CHEM 212	Materials Science I	3	
ENGL 103	Freshman English II for Engineers	3	
ENGR 100	Engineering Graphics	1	
<b>ENGR 540</b>	<b>Intro to Ship Systems</b>	<b>3</b>	
MATH 102	Calculus II	4	
PE 101	Lifetime Fitness & Conditioning	1	
PHYS 102	Engineering Physics I	4	
	<b>Total Credits:</b>	<b>19</b>	

<b>ENGR 510</b>	<b>Summer Sea Term I</b>	<b>6</b>	
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**Sophomore Year**

	<b>Fall Semester</b>	<b>cr.</b>	
ENGR 242	Statics	3	
ENGR 503	Manufacturing Processes I	1	
<b>ENGR 541</b>	<b>Ship Systems I</b>	<b>2</b>	
HUMN 201	World Literature & Culture I	3	
MATH 211	Calculus III	4	
PHYS 201	Engineering Physics II	4	
PHYS 202	Engineering Physics Lab	1	
	<b>Total Credits:</b>	<b>18</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
ENGR 200	Intro to Engineering Analysis	2	
ENGR 244	Dynamics	3	
ENGR 290	Electrical Engineering I	3	
ENGR 504	Manufacturing Processes II	1	
<b>ENGR 542</b>	<b>Ship Systems II</b>	<b>2</b>	
HUMN 202	World Literature & Culture II	3	
MATH 212	Differential Equations	4	
	<b>Total Credits:</b>	<b>18</b>	

<b>ENGR 520</b>	<b>Summer Sea Term II</b>	<b>6</b>	
<b>ENGR 521</b>	<b>Cadet Commercial Vessel Shipping</b>		

**Total Lower Division Credits:                    84**

**Engineering Department Lower Division Competency Requirement**

B.E. Engineering students must satisfy a lower division competency requirement. Students must achieve a minimum mastery level in defined subject areas prior to achieving the status of matriculated upper division student. The required standard is a 2.0 GPA in each of the following lower division subsets.

**Humanities:**                    ENGL101, ENGL103; HUMN201, HUMN202  
**Mathematics:**                MATH101, MATH102, MATH211, MATH212  
**Science:**                      PHYS102, PHYS201, PHYS202, CHEM121, CHEM122, CHEM212  
**Engineering:**                ENGR242, ENGR244\*, ENGR290

\*Specific courses may be excluded from subset GPA calculation if the student's engineering program does not require the courses for junior level work.

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**Engineering Department Lower Division Competency Requirement**

(Continued)

Students who do not achieve the minimum subset GPA should expect to be required to remediate in subset area(s) prior to becoming eligible for removal from remediation status. Students in remediation status must have a corrective program developed in conjunction with their faculty advisor and approved by the respective area Chair and the Engineering Department Chair. Students who at any time have a subset average between 1.7 and 2.0 may be given a subset warning and; should expect to be required to repeat one or more subset courses as part of the remediation process. Students with subset averages below 1.7 will be required to repeat one or more subset courses as part of the remediation process. At the discretion of the Engineering Department chair students may be allowed to “test out” of remediation status. Students in remediation status will not be allowed to register for upper division courses in their major. Additional registration restrictions will be imposed on students on academic probation or restricted registration status.

**Bachelor of Engineering  
Mechanical Engineering - Engine License  
Upper Division**

Courses in **bold** are typically limited to the semester in which they appear.

**Junior Year**

<b>Fall Semester</b>		<b>cr.</b>	
ENGR 344	Thermodynamics	3	
ENGR 347	Strength of Materials	3	
ENGR 380	Electrical Engineering II	3	
<b>ENGR 543</b>	<b>Ship Systems III</b>	<b>3</b>	
HIST 101	American Civilization I	3	
NAUT 308	Nautical Operations: Safety	2	
PE 2xx	Lifetime Sports	1	
	<b>Total Credits:</b>	<b>18</b>	

<b>Spring Semester</b>		<b>cr.</b>	
<b>ENGR 312</b>	<b>Machine Design</b>	<b>3</b>	
ENGR 341	Fluid Mechanics	3	
ENGR 345	Engineering Statistical Analysis	3	
ENGR 354	Marine Engineering Design I	3	
<b>ENGR 544</b>	<b>Ship Systems IV</b>	<b>3</b>	
HIST 102	American Civilization II	3	
	<b>Total Credits:</b>	<b>18</b>	

<b>ENGR 530</b>	<b>Summer Sea Term III</b>	<b>5</b>	
ENGR 516	Engine License Seminar	0	
PE 411	Medical Care Provider	1	

**Senior Year**

<b>Fall Semester</b>		<b>cr.</b>	
ENGR 348	Strength of Materials Lab	1	
ENGR 371	Applied Naval Architecture	3	
ENGR 390	Electrical Engineering III	3	
<b>ENGR 418</b>	<b>Mechanical Engineering Design I</b>	<b>4</b>	
<b>ENGR 454</b>	<b>Vibrations</b>	<b>3</b>	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>17</b>	

<b>Spring Semester</b>		<b>cr.</b>	
<b>ENGR 349</b>	<b>Transport Processes Laboratory</b>	<b>1</b>	
ENGR 351	Heat Transfer	3	
<b>ENGR 419</b>	<b>Mechanical Engineering Design II</b>	<b>4</b>	
ENGR 443	Engineering Economics	3	
	Engr/Sci elective	3	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>17</b>	

**Total Credits for Degree: 160**

**Engr/Sci elective: any ENGR course numbered 300, 400 or 600 or any course in computer science, oceanography or mathematics approved by the Science Department.**

## Bachelor of Engineering Mechanical Engineering - Intern Lower Division

Courses in **bold** are typically limited to the semester in which they appear.

### Freshman Year

Fall Semester		cr.	
CHEM 121	General Chemistry I	3	
CHEM 122	General Chemistry I Laboratory	1	
ENGL 101	Freshman English I	3	
LEAD 101	Leadership/Maritime Experience	1	
MATH 101	Calculus I	4	
PE 103	Water Safety & Survival	1	
PS 111	Professional Studies	2	
PS 112	Basic Safety Training	2	
<b>Total Credits:</b>		<b>17</b>	

Spring Semester		cr.	
CHEM 212	Materials Science I	3	
ENGL 103	Freshman English II for Engineers	3	
ENGR 100	Engineering Graphics	1	
<b>ENGR 540</b>	<b>Intro to Ship Systems</b>	<b>3</b>	
MATH 102	Calculus II	4	
PE 101	Lifetime Fitness & Conditioning	1	
PHYS 102	Engineering Physics I	4	
<b>Total Credits:</b>		<b>19</b>	

<b>ENGR 510</b>	<b>Summer Sea Term I</b>	<b>6</b>	
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Engineering Students pursuing the Intern Option may substitute 6 credits (Applied Engineering electives – typically in Jr., Sr. years) for ENGR 510.

An Intern Option Student who is not in the Regiment is not permitted on the Training Ship and therefore must make this substitution.

### Sophomore Year

Fall Semester		cr.	
ENGR 242	Statics	3	
HIST 101	American Civilization I	3	
HUMN 201	World Literature & Culture I	3	
MATH 211	Calculus III	4	
PHYS 201	Engineering Physics II	4	
PHYS 202	Engineering Physics Lab	1	
<b>Total Credits:</b>		<b>18</b>	

Spring Semester		cr.	
ENGR 200	Intro to Engineering Analysis	2	
ENGR 244	Dynamics	3	
ENGR 290	Electrical Engineering I	3	
HIST 102	American Civilization II	3	
HUMN 202	World Literature & Culture II	3	
MATH 212	Differential Equations	4	
<b>Total Credits:</b>		<b>18</b>	

<b>ENGR 525</b>	<b>Industrial Internship I</b>	<b>6</b>	
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**Total Lower Division Credits: 84**

#### Engineering Department Lower Division Competency Requirement

B.E. Engineering students must satisfy a lower division competency requirement. Students must achieve a minimum mastery level in defined subject areas prior to achieving the status of matriculated upper division student. The required standard is a 2.0 GPA in each of the following lower division subsets.

- Humanities:** ENGL101, ENGL103; HUMN201, HUMN202
- Mathematics:** MATH101, MATH102, MATH211, MATH212
- Science:** PHYS102, PHYS201, PHYS202, CHEM121, CHEM122, CHEM212
- Engineering:** ENGR242, ENGR244\*, ENGR290

\*Specific courses may be excluded from subset GPA calculation if the student's engineering program does not require the courses for junior level work.

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**Engineering Department Lower Division Competency Requirement**

(Continued)

Students who do not achieve the minimum subset GPA should expect to be required to remediate in subset area(s) prior to becoming eligible for removal from remediation status. Students in remediation status must have a corrective program developed in conjunction with their faculty advisor and approved by the respective area Chair and the Engineering Department Chair. Students who at any time have a subset average between 1.7 and 2.0 may be given a subset warning and; should expect to be required to repeat one or more subset courses as part of the remediation process. Students with subset averages below 1.7 will be required to repeat one or more subset courses as part of the remediation process. At the discretion of the Engineering Department chair students may be allowed to “test out” of remediation status. Students in remediation status will not be allowed to register for upper division courses in their major. Additional registration restrictions will be imposed on students on academic probation or restricted registration status.

**Bachelor of Engineering  
Mechanical Engineering - Intern  
Upper Division**

Courses in **bold** are typically limited to the semester in which they appear.

**Junior Year**

<b>Fall Semester</b>		<b>cr.</b>	
ENGR 344	Thermodynamics	3	
ENGR 347	Strength of Materials	3	
ENGR 380	Electrical Engineering II	3	
PE 2xx	Lifetime Sports	1	
	Applied Engineering elective	3	
	Humanities or SocSci elective	3	
<b>Total Credits:</b>		<b>16</b>	

<b>Spring Semester</b>		<b>cr.</b>	
<b>ENGR 312</b>	<b>Machine Design</b>	<b>3</b>	
ENGR 341	Fluid Mechanics	3	
ENGR 345	Engineering Statistical Analysis	3	
ENGR 354	Marine Engineering Design I	3	
	Applied Engineering elective	3	
	Humanities or SocSci elective	3	
<b>Total Credits:</b>		<b>18</b>	

<b>ENGR 535</b>	<b>Industrial Internship II</b>	<b>6</b>	
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**Senior Year**

<b>Fall Semester</b>		<b>cr.</b>	
ENGR 348	Strength of Materials Lab	1	
ENGR 390	Electrical Engineering III	3	
<b>ENGR 418</b>	<b>Mechanical Engineering Design I</b>	<b>4</b>	
<b>ENGR 454</b>	<b>Vibrations</b>	<b>3</b>	
	Applied Engineering elective	3	
	Engr/Sci elective	3	
<b>Total Credits:</b>		<b>17</b>	

<b>Spring Semester</b>		<b>cr.</b>	
<b>ENGR 349</b>	<b>Transport Processes Laboratory</b>	<b>1</b>	
ENGR 351	Heat Transfer	3	
<b>ENGR 419</b>	<b>Mechanical Engineering Design II</b>	<b>4</b>	
ENGR 443	Engineering Economics	3	
	Applied Engineering elective	3	
	Engr/Sci elective	3	
<b>Total Credits:</b>		<b>17</b>	

**Total Credits for Degree: 158**

**Applied Engineering elective: Any ENGR course numbered 300 or above.**

**Engr/Sci elective: any ENGR course numbered 300, 400 or 600 or any course in computer science, oceanography or mathematics approved by the Science Department.**

**Bachelor of Engineering  
Naval Architecture - Deck License  
Lower Division**

**Freshman Year**

	<b>Fall Semester</b>	<b>cr.</b>	
CHEM 121	General Chemistry I	3	
CHEM 122	General Chemistry I Laboratory	1	
ENGL 101	Freshman English I	3	
ENGR 100	Engineering Graphics	1	
LEAD 101	Leadership/Maritime Experience	1	
MATH 101	Calculus I	4	
PE 103	Water Safety & Survival	1	
PS 111	Professional Studies	2	
PS 112	Basic Safety Training	2	
	<b>Total Credits:</b>	<b>18</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
CHEM 212	Materials Science I	3	
ENGL 103	Freshman English II for Engineers	3	
MATH 102	Calculus II	4	
NAUT 102	IntroVesselOps & Smnship	1	
NAVG 112	Terrestrial Navigation	4	
PHYS 102	Engineering Physics I	4	
	<b>Total Credits:</b>	<b>19</b>	

<b>MT 510</b>	<b>Summer Sea Term I</b>	<b>6</b>	
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**Sophomore Year**

	<b>Fall Semester</b>	<b>cr.</b>	
ENGR 242	Statics	3	
HUMN 201	World Literature & Culture I	3	
MATH 211	Calculus III	4	
METE 201	Meteorology for Mariners	3	
PE 101	Lifetime Fitness & Conditioning	1	
PHYS 201	Engineering Physics II	4	
PHYS 202	Engineering Physics Lab	1	
	<b>Total Credits:</b>	<b>19</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
ENGR 200	Intro to Engineering Analysis	2	
ENGR 244	Dynamics	3	
HIST 101	American Civilization I	3	
HUMN 202	World Literature & Culture II	3	
MATH 212	Differential Equations	4	
NAVG 212	Celestial Navigation	4	
	<b>Total Credits:</b>	<b>19</b>	

<b>MT 520</b>	<b>Summer Sea Term II</b>	<b>6</b>	
<b>MT 521</b>	<i>or</i> <b>Cadet Commercial Vessel Shipping</b>		

**Total Lower Division Credits: 87**

**Engineering Department Lower Division Competency Requirement**

B.E. Engineering students must satisfy a lower division competency requirement. Students must achieve a minimum mastery level in defined subject areas prior to achieving the status of matriculated upper division student. The required standard is a 2.0 GPA in each of the following lower division subsets.

**Humanities:** ENGL101, ENGL103; HUMN201, HUMN202  
**Mathematics:** MATH101, MATH102, MATH211, MATH212  
**Science:** PHYS102, PHYS201, PHYS202, CHEM121, CHEM122, CHEM212  
**Engineering:** ENGR242, ENGR244\*, ENGR290

\*Specific courses may be excluded from subset GPA calculation if the student's engineering program does not require the courses for junior level work.

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**Engineering Department Lower Division Competency Requirement**

(Continued)

Students who do not achieve the minimum subset GPA should expect to be required to remediate in subset area(s) prior to becoming eligible for removal from remediation status. Students in remediation status must have a corrective program developed in conjunction with their faculty advisor and approved by the respective area Chair and the Engineering Department Chair. Students who at any time have a subset average between 1.7 and 2.0 may be given a subset warning and; should expect to be required to repeat one or more subset courses as part of the remediation process. Students with subset averages below 1.7 will be required to repeat one or more subset courses as part of the remediation process. At the discretion of the Engineering Department chair students may be allowed to "test out" of remediation status. Students in remediation status will not be allowed to register for upper division courses in their major. Additional registration restrictions will be imposed on students on academic probation or restricted registration status.

**Bachelor of Engineering  
Naval Architecture - Deck License**

**Upper Division** Courses in **bold** are typically limited to the semester in which they appear.

**Junior Year**

	<b>Fall Semester</b>	<b>cr.</b>	
ENGR 341	Fluid Mechanics	3	
ENGR 344	Thermodynamics	3	
ENGR 347	Strength of Materials	3	
<b>ENGR 363</b>	<b>Ship Statics</b>	<b>3</b>	
<b>ENGR 365</b>	<b>Ship Form and Graphics</b>	<b>3</b>	
NAUT 314	Rules of the Road	2	
NAUT 315	Collision Avoidance	3	
	<b>Total Credits:</b>	<b>20</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
<b>ENGR 366</b>	<b>Ship Structure</b>	<b>3</b>	
<b>ENGR 368</b>	<b>Ship Design I</b>	<b>3</b>	
ENGR 443	Engineering Economics	3	
HIST 102	American Civilization II	3	
NAUT 308	Nautical Operations: Safety	2	
NAVG 312	Electr Nav & Voyage Planning	4	
	<b>Total Credits:</b>	<b>18</b>	

<b>MT 530</b>	<b>Summer Sea Term III</b>	<b>5</b>	
PE 411	Medical Care Provider	1	

**Senior Year**

	<b>Fall Semester</b>	<b>cr.</b>	
ENGR 290	Electrical Engineering I	3	
ENGR 345	Engineering Statistical Analysis	3	
ENGR 348	Strength of Materials Lab	1	
<b>ENGR 461</b>	<b>Ship Design II</b>	<b>4</b>	
<b>ENGR 462</b>	<b>Ship Resistance and Propulsion</b>	<b>3</b>	
MT 321	Intro to Cargo Ops & Stability	3	
	<b>Total Credits:</b>	<b>17</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
ENGR 354	Marine Engineering Design I	3	
<b>ENGR 471</b>	<b>Ship Design III</b>	<b>4</b>	
<b>ENGR 473</b>	<b>Ship Dynamics</b>	<b>3</b>	
MT 322	Marine Cargo Operations	3	
PE 2xx	Lifetime Sports	1	
	Engr/Sci elective	3	
	<b>Total Credits:</b>	<b>17</b>	

	<b>9th Semester</b>	<b>cr.</b>	
MT 412	Deck License Seminar	4	
MT 426	Maritime Communications	3	
NAUT 416	Bridge Watchstanding	3	
	Humanities or SocSci elective	3	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>16</b>	

**Total Credits for Degree: 181**

**Engr/Sci elective: any ENGR course numbered 300, 400 or 600 or any course in computer science, oceanography or mathematics approved by the Science Department.**

## Bachelor of Engineering Naval Architecture - Engine License Lower Division

Courses in **bold** are typically limited to the semester in which they appear.

### Freshman Year

<b>Fall Semester</b>		<b>cr.</b>	
CHEM 121	General Chemistry I	3	
CHEM 122	General Chemistry I Laboratory	1	
ENGL 101	Freshman English I	3	
LEAD 101	Leadership/Maritime Experience	1	
MATH 101	Calculus I	4	
PE 103	Water Safety & Survival	1	
PS 111	Professional Studies	2	
PS 112	Basic Safety Training	2	
<b>Total Credits:</b>		<b>17</b>	

<b>Spring Semester</b>		<b>cr.</b>	
CHEM 212	Materials Science I	3	
ENGL 103	Freshman English II for Engineers	3	
ENGR 100	Engineering Graphics	1	
<b>ENGR 540</b>	<b>Intro to Ship Systems</b>	<b>3</b>	
MATH 102	Calculus II	4	
PE 101	Lifetime Fitness & Conditioning	1	
PHYS 102	Engineering Physics I	4	
<b>Total Credits:</b>		<b>19</b>	

<b>ENGR 510</b>	<b>Summer Sea Term I</b>	<b>6</b>	
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### Sophomore Year

<b>Fall Semester</b>		<b>cr.</b>	
ENGR 242	Statics	3	
ENGR 503	Manufacturing Processes I	1	
<b>ENGR 541</b>	<b>Ship Systems I</b>	<b>2</b>	
HUMN 201	World Literature & Culture I	3	
MATH 211	Calculus III	4	
PHYS 201	Engineering Physics II	4	
PHYS 202	Engineering Physics Lab	1	
<b>Total Credits:</b>		<b>18</b>	

<b>Spring Semester</b>		<b>cr.</b>	
ENGR 200	Intro to Engineering Analysis	2	
ENGR 244	Dynamics	3	
ENGR 290	Electrical Engineering I	3	
ENGR 504	Manufacturing Processes II	1	
<b>ENGR 542</b>	<b>Ship Systems II</b>	<b>2</b>	
HUMN 202	World Literature & Culture II	3	
MATH 212	Differential Equations	4	
<b>Total Credits:</b>		<b>18</b>	

<b>ENGR 520</b>	<b>Summer Sea Term II</b>	<b>6</b>	
<b>ENGR 521</b>	<b>Cadet Commercial Vessel Shipping</b>		

**Total Lower Division Credits: 84**

#### Engineering Department Lower Division Competency Requirement

B.E. Engineering students must satisfy a lower division competency requirement. Students must achieve a minimum mastery level in defined subject areas prior to achieving the status of matriculated upper division student. The required standard is a 2.0 GPA in each of the following lower division subsets.

- Humanities:** ENGL101, ENGL103; HUMN201, HUMN202
- Mathematics:** MATH101, MATH102, MATH211, MATH212
- Science:** PHYS102, PHYS201, PHYS202, CHEM121, CHEM122, CHEM212
- Engineering:** ENGR242, ENGR244\*, ENGR290

\*Specific courses may be excluded from subset GPA calculation if the student's engineering program does not require the courses for junior level work.

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**Engineering Department Lower Division Competency Requirement**

(Continued)

Students who do not achieve the minimum subset GPA should expect to be required to remediate in subset area(s) prior to becoming eligible for removal from remediation status. Students in remediation status must have a corrective program developed in conjunction with their faculty advisor and approved by the respective area Chair and the Engineering Department Chair. Students who at any time have a subset average between 1.7 and 2.0 may be given a subset warning and; should expect to be required to repeat one or more subset courses as part of the remediation process. Students with subset averages below 1.7 will be required to repeat one or more subset courses as part of the remediation process. At the discretion of the Engineering Department chair students may be allowed to “test out” of remediation status. Students in remediation status will not be allowed to register for upper division courses in their major. Additional registration restrictions will be imposed on students on academic probation or restricted registration status.

**Bachelor of Engineering  
Naval Architecture - Engine License  
Upper Division**

Courses in **bold** are typically limited to the semester in which they appear.

**Junior Year**

	<b>Fall Semester</b>	<b>cr.</b>	
ENGR 344	Thermodynamics	3	
ENGR 347	Strength of Materials	3	
<b>ENGR 363</b>	<b>Ship Statics</b>	<b>3</b>	
<b>ENGR 365</b>	<b>Ship Form and Graphics</b>	<b>3</b>	
ENGR 380	Electrical Engineering II	3	
<b>ENGR 543</b>	<b>Ship Systems III</b>	<b>3</b>	
HIST 101	American Civilization I	3	
	<b>Total Credits:</b>	<b>21</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
ENGR 341	Fluid Mechanics	3	
<b>ENGR 366</b>	<b>Ship Structure</b>	<b>3</b>	
<b>ENGR 368</b>	<b>Ship Design I</b>	<b>3</b>	
ENGR 443	Engineering Economics	3	
<b>ENGR 544</b>	<b>Ship Systems IV</b>	<b>3</b>	
HIST 102	American Civilization II	3	
NAUT 308	Nautical Operations: Safety	2	
	<b>Total Credits:</b>	<b>20</b>	

<b>ENGR 530</b>	<b>Summer Sea Term III</b>	<b>5</b>	
ENGR 516	Engine License Seminar	0	
PE 411	Medical Care Provider	1	

**Senior Year**

	<b>Fall Semester</b>	<b>cr.</b>	
ENGR 345	Engineering Statistical Analysis	3	
ENGR 348	Strength of Materials Lab	1	
<b>ENGR 461</b>	<b>Ship Design II</b>	<b>4</b>	
<b>ENGR 462</b>	<b>Ship Resistance and Propulsion</b>	<b>3</b>	
PE 2xx	Lifetime Sports	1	
	Engr/Sci elective	3	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>18</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
ENGR 354	Marine Engineering Design I	3	
ENGR 390	Electrical Engineering III	3	
<b>ENGR 471</b>	<b>Ship Design III</b>	<b>4</b>	
<b>ENGR 473</b>	<b>Ship Dynamics</b>	<b>3</b>	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>16</b>	

**Total Credits for Degree: 165**

**Engr/Sci elective: any ENGR course numbered 300, 400 or 600 or any course in computer science, oceanography or mathematics approved by the Science Department.**

**Bachelor of Engineering  
Naval Architecture - Intern  
Lower Division**

Courses in **bold** are typically limited to the semester in which they appear.

**Freshman Year**

	<b>Fall Semester</b>	<b>cr.</b>	
CHEM 121	General Chemistry I	3	
CHEM 122	General Chemistry I Laboratory	1	
ENGL 101	Freshman English I	3	
LEAD 101	Leadership/Maritime Experience	1	
MATH 101	Calculus I	4	
PE 103	Water Safety & Survival	1	
PS 111	Professional Studies	2	
PS 112	Basic Safety Training	2	
	<b>Total Credits:</b>	<b>17</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
CHEM 212	Materials Science I	3	
ENGL 103	Freshman English II for Engineers	3	
ENGR 100	Engineering Graphics	1	
<b>ENGR 540</b>	<b>Intro to Ship Systems</b>	<b>3</b>	
MATH 102	Calculus II	4	
PE 101	Lifetime Fitness & Conditioning	1	
PHYS 102	Engineering Physics I	4	
	<b>Total Credits:</b>	<b>19</b>	

Engineering Students pursuing the Intern Option may substitute 6 credits (Applied Engineering electives – typically in Jr., Sr. years) for ENGR 510.

An Intern Option Student who is not in the Regiment is not permitted on the Training Ship and therefore must make this substitution.

<b>ENGR 510</b>	<b>Summer Sea Term I</b>	<b>6</b>	
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**Sophomore Year**

	<b>Fall Semester</b>	<b>cr.</b>	
ENGR 242	Statics	3	
ENGR 503	Manufacturing Processes I	1	
<b>ENGR 541</b>	<b>Ship Systems I</b>	<b>2</b>	
HUMN 201	World Literature & Culture I	3	
MATH 211	Calculus III	4	
PHYS 201	Engineering Physics II	4	
PHYS 202	Engineering Physics Lab	1	
	<b>Total Credits:</b>	<b>18</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
ENGR 200	Intro to Engineering Analysis	2	
ENGR 244	Dynamics	3	
ENGR 290	Electrical Engineering I	3	
ENGR 504	Manufacturing Processes II	1	
<b>ENGR 542</b>	<b>Ship Systems II</b>	<b>2</b>	
HUMN 202	World Literature & Culture II	3	
MATH 212	Differential Equations	4	
	<b>Total Credits:</b>	<b>18</b>	

<b>ENGR 525</b>	<b>Industrial Internship I</b>	<b>6</b>	
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**Total Lower Division Credits: 84**

**Engineering Department Lower Division Competency Requirement**

B.E. Engineering students must satisfy a lower division competency requirement. Students must achieve a minimum mastery level in defined subject areas prior to achieving the status of matriculated upper division student. The required standard is a 2.0 GPA in each of the following lower division subsets.

**Humanities:** ENGL101, ENGL103; HUMN201, HUMN202  
**Mathematics:** MATH101, MATH102, MATH211, MATH212  
**Science:** PHYS102, PHYS201, PHYS202, CHEM121, CHEM122, CHEM212  
**Engineering:** ENGR242, ENGR244\*, ENGR290

\*Specific courses may be excluded from subset GPA calculation if the student's engineering program does not require the courses for junior level work.

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**Engineering Department Lower Division Competency Requirement**

(Continued)

Students who do not achieve the minimum subset GPA should expect to be required to remediate in subset area(s) prior to becoming eligible for removal from remediation status. Students in remediation status must have a corrective program developed in conjunction with their faculty advisor and approved by the respective area Chair and the Engineering Department Chair. Students who at any time have a subset average between 1.7 and 2.0 may be given a subset warning and; should expect to be required to repeat one or more subset courses as part of the remediation process. Students with subset averages below 1.7 will be required to repeat one or more subset courses as part of the remediation process. At the discretion of the Engineering Department chair students may be allowed to "test out" of remediation status. Students in remediation status will not be allowed to register for upper division courses in their major. Additional registration restrictions will be imposed on students on academic probation or restricted registration status.

**Bachelor of Engineering  
Naval Architecture - Intern  
Upper Division**

Courses in **bold** are typically limited to the semester in which they appear.

**Junior Year**

<b>Fall Semester</b>		<b>cr.</b>	
ENGR 347	Strength of Materials	3	
<b>ENGR 363</b>	<b>Ship Statics</b>	<b>3</b>	
<b>ENGR 365</b>	<b>Ship Form and Graphics</b>	<b>3</b>	
ENGR 380	Electrical Engineering II	3	
<b>ENGR 543</b>	<b>Ship Systems III</b>	<b>3</b>	
HIST 101	American Civilization I	3	
	<b>Total Credits:</b>	<b>18</b>	

<b>Spring Semester</b>		<b>cr.</b>	
ENGR 341	Fluid Mechanics	3	
ENGR 344	Thermodynamics	3	
<b>ENGR 366</b>	<b>Ship Structure</b>	<b>3</b>	
<b>ENGR 368</b>	<b>Ship Design I</b>	<b>3</b>	
ENGR 443	Engineering Economics	3	
HIST 102	American Civilization II	3	
	<b>Total Credits:</b>	<b>18</b>	

<b>ENGR 535</b>	<b>Industrial Internship II</b>	<b>6</b>	
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**Senior Year**

<b>Fall Semester</b>		<b>cr.</b>	
ENGR 345	Engineering Statistical Analysis	3	
ENGR 348	Strength of Materials Lab	1	
<b>ENGR 461</b>	<b>Ship Design II</b>	<b>4</b>	
<b>ENGR 462</b>	<b>Ship Resistance and Propulsion</b>	<b>3</b>	
<b>ENGR 472</b>	<b>Sail Boat Principles &amp; Design</b>	<b>3</b>	
PE 2xx	Lifetime Sports	1	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>18</b>	

<b>Spring Semester</b>		<b>cr.</b>	
ENGR 354	Marine Engineering Design I	3	
<b>ENGR 471</b>	<b>Ship Design III</b>	<b>4</b>	
<b>ENGR 473</b>	<b>Ship Dynamics</b>	<b>3</b>	
<b>ENGR 476</b>	<b>Power Boat Principles &amp; Design</b>	<b>3</b>	
	Applied Engineering elective	3	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>19</b>	

**Total Credits for Degree:                    163**

**Applied Engineering elective: Any ENGR course numbered 300 or above.**

**Bachelor of Science  
International Transportation and Trade - Intern  
Lower Division**

This page shows the first two years for all students majoring in International Transportation and Trade.

**Freshman Year**

	<b>Fall Semester</b>	<b>cr.</b>	
CS 100	Intro to Business Computing	2	
CS 101	Computer Laboratory	1	
ENGL 101	Freshman English I	3	
GBUS 100	Intro to Business & Economics	3	
LEAD 101	Leadership/Maritime Experience	1	
MATH 090	Intro to College Mathematics		
	<i>or</i>	4	
MATH 111	Applied Calculus I		
PS 111	Professional Studies	2	
	<b>Total Credits:</b>	<b>16</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
ENGL 102	Freshman English II	3	
GBMG 345	Fundamentals of Marketing	3	
HIST 101	American Civilization I	3	
MATH 251	Statistics	3	
PE 100	Swimming	1	
	GenEd: Natural Science w/Lab	3	
	<b>Total Credits:</b>	<b>16</b>	

**Sophomore Year**

	<b>Fall Semester</b>	<b>cr.</b>	
ENGL 452	Technical Writing	3	
GBAC 311	Financial Accounting	3	
GBEC 121	Macroeconomics	3	
HIST 102	American Civilization II	3	
HUMN 201	World Literature & Culture I	3	
PE 101	Lifetime Fitness & Conditioning	1	
	<b>Total Credits:</b>	<b>16</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
GBAC 315	Managerial Accounting	3	
GBEC 122	Microeconomics	3	
GBLW 431	Business Law	3	
HUMN 202	World Literature & Culture II	3	
PE 2xx	Lifetime Sports	1	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>16</b>	

**Total Lower Division Credits:                    64**

**Lower Division Competency Requirement**

ITT students must satisfy a lower division competency requirement in order to register for upper division major courses. Competency is defined as having achieved a GPA of 2.5 in each of two groups of courses:

**ENGL 101, MATH 90 or 111, MATH 251;  
GBUS 100, GBEC 121, GBEC 122, GBAC 311, GBAC 315.**

**Bachelor of Science  
International Transportation and Trade - Intern  
Lower Division**

**Freshman Year**

	<b>Fall Semester</b>	<b>cr.</b>	
CS 100	Intro to Business Computing	2	
CS 101	Computer Laboratory	1	
ENGL 101	Freshman English I	3	
GBUS 100	Intro to Business & Economics	3	
LEAD 101	Leadership/Maritime Experience	1	
MATH 090	Intro to College Mathematics	4	
	<i>or</i>		
MATH 111	Applied Calculus I		
PS 111	Professional Studies	2	
	<b>Total Credits:</b>	<b>16</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
ENGL 102	Freshman English II	3	
GBMG 345	Fundamentals of Marketing	3	
HIST 101	American Civilization I	3	
MATH 251	Statistics	3	
PE 100	Swimming	1	
	GenEd: Natural Science w/Lab	3	
	<b>Total Credits:</b>	<b>16</b>	

**Sophomore Year**

	<b>Fall Semester</b>	<b>cr.</b>	
ENGL 452	Technical Writing	3	
GBAC 311	Financial Accounting	3	
GBEC 121	Macroeconomics	3	
HIST 102	American Civilization II	3	
HUMN 201	World Literature & Culture I	3	
PE 101	Lifetime Fitness & Conditioning	1	
	<b>Total Credits:</b>	<b>16</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
GBAC 315	Managerial Accounting	3	
GBEC 122	Microeconomics	3	
GBLW 431	Business Law	3	
HUMN 202	World Literature & Culture II	3	
PE 2xx	Lifetime Sports	1	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>16</b>	

**Total Lower Division Credits:                    64**

**Lower Division Competency Requirement**

ITT students must satisfy a lower division competency requirement in order to register for upper division major courses. Competency is defined as having achieved a GPA of 2.5 in each of two groups of courses:

**ENGL 101, MATH 90 or 111, MATH 251;  
GBUS 100, GBEC 121, GBEC 122, GBAC 311, GBAC 315.**

**Bachelor of Science  
International Transportation and Trade - Intern  
Upper Division**

Courses in **bold** are typically limited to the semester in which they appear.

**Junior Year**

	<b>Fall Semester</b>	<b>cr.</b>	
GBEC 424	Intl. Economics and Finance	3	
GBMG 341	Organizational Management	3	
GBT 251	Transportation Systems	3	
GBT 451	Marine Insurance	3	
	International Studies elective	3	
	<b>Total Credits:</b>	<b>15</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
GBEC 427	Financial Management	3	
GBEC 428	Economic Geography	3	
GBLW 433	Admiralty Law	3	
GBT 252	Business of Shipping	3	
	GBAT elective	3	
	<b>Total Credits:</b>	<b>15</b>	

<b>GBUS 525</b>	<b>ITT Internship / Work Exp.</b>	<b>6</b>	
	<i>or</i>		
<b>GBUS 526</b>	<b>ITT Study Abroad</b>		

**Senior Year**

	<b>Fall Semester</b>	<b>cr.</b>	
GBLW 435	Environmental Law & Policy	3	
GBT 453	Import/Export & Traffic Mgt.	3	
GBT 457	Port and Terminal Operations	3	
	Humanities or SocSci elective	3	
	International Studies elective	3	
	<b>Total Credits:</b>	<b>15</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
<b>GBEC 429</b>	<b>Seminar: Transport. Economics</b>	<b>3</b>	
	<i>or</i>		
<b>GBMG 440</b>	<b>Seminar: Strategy and Policy</b>		
MATH 446	Operations Research	3	
GBT 351	International Logistics	3	
GBUS 300	International Business	3	
	<b>Total Credits:</b>	<b>12</b>	

**Total Upper Division Credits: 63**  
**Total Credits for Degree: 127**

**GBAT electives: Any GBAT course or any course in the Minor in Intermodal and Maritime Security**

**International Studies electives**

ENGL 413 Novels of Latin America  
ENGL 415 Literature of Colonialism  
ENGL 416 Literature of the Sea  
ENGL 418 Contemporary Literature  
ENGL 470 Major British Authors  
GBLW 437 International Law  
GBMG 347 Entrepreneurship in ITT  
GBMG 442 International Marketing Mgt.  
GBMG 443 Cross-Cultural Management  
GBT 460 Principles of Global Supply Chain Security  
GBUS 526 ITT Study Abroad

HIST 401-02 Topics in European Civilization I-II  
HIST 418 Hist. of American Foreign Policy  
HIST 421 Vietnam and America  
HIST 425 History of Technology  
MT 408 International Safety Management  
MT 435 Maritime Security  
NVSC 102 Sea Power and Maritime Affairs  
NVSC 311 Evolution of Warfare  
Foreign language courses.  
Courses in study abroad programs will be evaluated by the department chair.

**Bachelor of Science  
International Transportation and Trade - Intern  
Minor in Business Communications  
Lower Division**

**Freshman Year**

	<b>Fall Semester</b>	<b>cr.</b>	
CS 100	Intro to Business Computing	2	
CS 101	Computer Laboratory	1	
ENGL 101	Freshman English I	3	
GBUS 100	Intro to Business & Economics	3	
LEAD 101	Leadership/Maritime Experience	1	
MATH 090	Intro to College Mathematics	4	
	<i>or</i>		
MATH 111	Applied Calculus I		
PS 111	Professional Studies	2	
	<b>Total Credits:</b>	<b>16</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
ENGL 102	Freshman English II	3	
GBMG 345	Fundamentals of Marketing	3	
HIST 101	American Civilization I	3	
MATH 251	Statistics	3	
PE 100	Swimming	1	
	GenEd: Natural Science w/Lab	3	
	<b>Total Credits:</b>	<b>16</b>	

**Sophomore Year**

	<b>Fall Semester</b>	<b>cr.</b>	
ENGL 452	Technical Writing	3	
GBAC 311	Financial Accounting	3	
GBEC 121	Macroeconomics	3	
HIST 102	American Civilization II	3	
HUMN 201	World Literature & Culture I	3	
PE 101	Lifetime Fitness & Conditioning	1	
	<b>Total Credits:</b>	<b>16</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
GBAC 315	Managerial Accounting	3	
GBEC 122	Microeconomics	3	
GBLW 431	Business Law	3	
HUMN 202	World Literature & Culture II	3	
PE 2xx	Lifetime Sports	1	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>16</b>	

**Total Lower Division Credits:                   64**

**Lower Division Competency Requirement**

ITT students must satisfy a lower division competency requirement in order to register for upper division major courses. Competency is defined as having achieved a GPA of 2.5 in each of two groups of courses:

**ENGL 101, MATH 90 or 111, MATH 251;  
GBUS 100, GBEC 121, GBEC 122, GBAC 311, GBAC 315.**

**Bachelor of Science  
International Transportation and Trade - Intern  
Minor in Business Communications  
Upper Division**

Courses in **bold** are typically limited to the semester in which they appear.

**Junior Year**

<b>Fall Semester</b>		<b>cr.</b>	
GBEC 424	Intl. Economics and Finance	3	
GBMG 341	Organizational Management	3	
<i>GBMG 348</i>	<i>Business Ethics</i>	3	
GBT 251	Transportation Systems	3	
GBT 451	Marine Insurance	3	
	<b>Total Credits:</b>	<b>15</b>	

<b>Spring Semester</b>		<b>cr.</b>	
<i>ENGL 450</i>	<i>Speech</i>	<b>3</b>	
GBEC 427	Financial Management	3	
GBEC 428	Economic Geography	3	
GBLW 433	Admiralty Law*	3	
GBT 252	Business of Shipping	3	
	<b>Total Credits:</b>	<b>15</b>	

<b>GBUS 525</b>	<b>ITT Internship / Work Exp.</b>	<b>6</b>	
	<i>or</i>		
<b>GBUS 526</b>	<b>ITT Study Abroad</b>		

**Senior Year**

<b>Fall Semester</b>		<b>cr.</b>	
<i>ENGL 456</i>	<i>Advanced Technical Writing</i>	<b>3</b>	
GBLW 435	Environmental Law & Policy*	3	
GBT 453	Import/Export & Traffic Mgt.*	3	
GBT 457	Port and Terminal Operations*	3	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>15</b>	

<b>Spring Semester</b>		<b>cr.</b>	
<b>GBEC 429</b>	<b>Seminar: Transport. Economics</b>	<b>3</b>	
	<i>or</i>		
<b>GBMG 440</b>	<b>Seminar: Strategy and Policy</b>		
MATH 446	Operations Research	3	
GBT 351	International Logistics*	3	
GBUS 300	International Business*	3	
	<i>Business Commun. elective</i>	3	
	<b>Total Credits:</b>	<b>15</b>	

\* Students will meet with advisor to replace one of these courses by

	<i>Business Commun. elective</i>	3	
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**Total Upper Division Credits: 66**  
**Total Credits for Degree: 130**

**Business Communications electives (choose two)**

ENGL 454	Journalism	3
GBLW 437	International Law	3
GBMG 347	Entr. in Intern. Transp. & Trade	3
HIST 425	History of Technology	3
HIST 440	History of Amer. Enterprise I	3
HIST 441	History of Amer. Enterprise II	3
HUMN 402	Images of Men, Women, Mach.	3

The courses constituting the Minor are listed above in *italics*.



**Bachelor of Science  
International Transportation and Trade - Intern  
Minor in Intermodal and Maritime Security  
Lower Division**

**Freshman Year**

	<b>Fall Semester</b>	<b>cr.</b>	
CS 100	Intro to Business Computing	2	
CS 101	Computer Laboratory	1	
ENGL 101	Freshman English I	3	
GBUS 100	Intro to Business & Economics	3	
LEAD 101	Leadership/Maritime Experience	1	
MATH 090	Intro to College Mathematics	4	
	<i>or</i>		
MATH 111	Applied Calculus I		
PS 111	Professional Studies	2	
	<b>Total Credits:</b>	<b>16</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
ENGL 102	Freshman English II	3	
GBMG 345	Fundamentals of Marketing	3	
HIST 101	American Civilization I	3	
MATH 251	Statistics	3	
PE 100	Swimming	1	
	GenEd: Natural Science w/Lab	3	
	<b>Total Credits:</b>	<b>16</b>	

**Sophomore Year**

	<b>Fall Semester</b>	<b>cr.</b>	
ENGL 452	Technical Writing	3	
GBAC 311	Financial Accounting	3	
GBEC 121	Macroeconomics	3	
HIST 102	American Civilization II	3	
HUMN 201	World Literature & Culture I	3	
PE 101	Lifetime Fitness & Conditioning	1	
	<b>Total Credits:</b>	<b>16</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
GBAC 315	Managerial Accounting	3	
GBEC 122	Microeconomics	3	
GBLW 431	Business Law	3	
HUMN 202	World Literature & Culture II	3	
PE 2xx	Lifetime Sports	1	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>16</b>	

**Total Lower Division Credits:                    64**

**Lower Division Competency Requirement**

ITT students must satisfy a lower division competency requirement in order to register for upper division major courses. Competency is defined as having achieved a GPA of 2.5 in each of two groups of courses:

**ENGL 101, MATH 90 or 111, MATH 251;  
GBUS 100, GBEC 121, GBEC 122, GBAC 311, GBAC 315.**

**Bachelor of Science**  
**International Transportation and Trade - Intern**  
**Minor in Intermodal and Maritime Security**  
**Upper Division**

Courses in **bold** are typically limited to the semester in which they appear.

**Junior Year**

<b>Fall Semester</b>		<b>cr.</b>	
GBEC 424	Intl. Economics and Finance	3	
GBMG 341	Organizational Management	3	
GBTT 251	Transportation Systems	3	
GBTT 451	Marine Insurance	3	
<i>MT 435</i>	<i>Maritime Security</i>	3	
<b>Total Credits:</b>		<b>15</b>	

<b>Spring Semester</b>		<b>cr.</b>	
GBEC 427	Financial Management	3	
GBEC 428	Economic Geography	3	
GBLW 433	Admiralty Law*	3	
GBTT 252	Business of Shipping	3	
<i>GBTT 460</i>	<i>Global Supply Chain Security</i>	3	
<b>Total Credits:</b>		<b>15</b>	

<b>GBUS 525</b>	<b>ITT Internship / Work Exp.</b>	<b>6</b>	
<b>GBUS 526</b>	<b>ITT Study Abroad</b>		

**Senior Year**

<b>Fall Semester</b>		<b>cr.</b>	
GBLW 435	Environmental Law & Policy*	3	
GBTT 453	Import/Export & Traffic Mgt.*	3	
GBTT 457	Port and Terminal Operations*	3	
<i>GBTT 462</i>	<i>Sci &amp; Tech Issues of Security</i>	3	
	Humanities or SocSci elective	3	
<b>Total Credits:</b>		<b>15</b>	

<b>Spring Semester</b>		<b>cr.</b>	
<b>GBEC 429</b>	<b>Seminar: Transport. Economics</b>	<b>3</b>	
	<i>or</i>		
<b>GBMG 440</b>	<b>Seminar: Strategy and Policy</b>		
MATH 446	Operations Research	3	
GBTT 351	International Logistics*	3	
GBUS 300	International Business*	3	
<i>MT 430</i>	<i>Emergency Mgt. Systems</i>	3	
<b>Total Credits:</b>		<b>15</b>	

\* Students will meet with advisor to replace one of these courses by

<i>GBTT 465</i>	<i>Contemporary Security Issues</i>	3	
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**Total Upper Division Credits: 66**  
**Total Credits for Degree: 130**

**Bachelor of Science  
International Transportation and Trade - Intern  
2-Year Program  
Lower Division Transfer Requirements**

Maritime College's B.S. in International Transportation and Trade (ITT) welcomes well-qualified transfer students. In order to complete the upper division work in two years of full-time study, a student must take the appropriate courses during his/her first two years. While students who do not fulfill all the lower division transfer requirements will still be considered for admission into the ITT program, it may not be possible to complete the work in the two-year time frame. An overall GPA of 2.5 is required to transfer into the ITT program.

Students should take courses that correspond as closely as possible to the following list.

Note: The SUNY General Education category is listed in parentheses, where applicable.

	<b>cr.</b>
CS 100/101, Introduction to Business Computing & Computer Laboratory	3
ENGL 101, Freshman English I - Composition	3
ENGL 102, Freshman English II - Literature	3
ENGL 452, Technical Writing	3
GBAC 311, Financial Accounting	3
GBAC 315, Managerial Accounting	3
GBEC 121, Macroeconomics	3
GBEC 122, Microeconomics	3
GBLW 431, Business Law	3
GBMG 345, Fundamentals of Marketing	3
GBUS 100, Introduction to Business & Economics	3
HIST 101/102, American Civilization I&II (Gen Ed: American History)	6
HUMN 201/202, World Lit & Culture I & II (Gen Ed: Western and Other Civilizations)	6
MATH 251, Statistics	3
MATH 090, Intro to College Math or MATH 111, Applied Calculus I	4
PE elective	1
Free elective	3
Humanities or SocSci elective	3
General Education: Natural Science w/Lab	3
<b>Total Lower Division Transfer Credits:</b>	<b>62</b>

**Total Upper Division Program (found on previous pages) Credits: 63**  
**Total Credits for Degree: 125**

**Lower Division Competency Requirement**

ITT students must satisfy a lower division competency requirement in order to register for upper division major courses. Competency is defined as having achieved a GPA of 2.5 in each of two groups of courses:

**ENGL 101, MATH 90 or 111, MATH 251;**  
**GBUS 100, GBEC 121, GBEC 122, GBAC 311, GBAC 315.**

**Bachelor of Science  
Marine Business and Commerce - Deck License  
Humanities Study Area Concentration  
Lower Division**

The first two years of this curriculum are identical to those of the Marine Transportation curriculum.

**Freshman Year**

	<b>Fall Semester</b>	<b>cr.</b>	
CS 100	Intro to Business Computing	2	
CS 101	Computer Laboratory	1	
ENGL 101	Freshman English I	3	
LEAD 101	Leadership/Maritime Experience	1	
MATH 111	Applied Calculus I	4	
PE 101	Lifetime Fitness & Conditioning	1	
PS 111	Professional Studies	2	
PS 112	Basic Safety Training	2	
	<b>Total Credits:</b>	<b>16</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
ENGL 102	Freshman English II	3	
GBUS 100	Intro to Business & Economics	3	
MATH 251	Statistics	3	
MT 250	Ship Construction & Stability	2	
NAUT 102	Intro Vessel Ops & Seamanship	1	
NAVG 112	Terrestrial Navigation	4	
PE 103	Water Safety & Survival	1	
	<b>Total Credits:</b>	<b>17</b>	

<b>MT 510</b>	<b>Summer Sea Term I</b>	<b>6</b>	
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**Sophomore Year**

	<b>Fall Semester</b>	<b>cr.</b>	
GBEC 121	Macroeconomics	3	
GBTT 251	Transportation Systems	3	
HUMN 201	World Literature & Culture I	3	
METE 201	Meteorology for Mariners	3	
MT 435	Maritime Security	3	
PHYS 211	General Physics I	3	
PHYS 213	General Physics I Lab	0.5	
	<b>Total Credits:</b>	<b>18.5</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
GBAC 311	Financial Accounting	3	
GBEC 122	Microeconomics	3	
GBTT 252	Business of Shipping	3	
HUMN 202	World Literature & Culture II	3	
NAUT 314	Rules of the Road	2	
NAVG 212	Celestial Navigation	4	
	<b>Total Credits:</b>	<b>18</b>	

<b>MT 520</b>	<b>Summer Sea Term II</b>	<b>6</b>	
<b>MT 521</b>	<i>or</i> <b>Cadet Commercial Vessel Shipping</b>		

**Total Lower Division Credits: 81.5**

**Bachelor of Science  
Marine Business and Commerce - Deck License  
Humanities Study Area Concentration  
Upper Division**

Each semester below includes a group of Humanities Study Area Concentration (SAC) electives.  
These courses are to be chosen in consultation with student's advisor.

**Junior Year**

	<b>Fall Semester</b>	<b>cr.</b>	
ENGL 452	Technical Writing	3	
HIST 101	American Civilization I	3	
MT 321	Intro to Cargo Ops & Stability	3	
NAUT 315	Collision Avoidance	3	
PE 2xx	Lifetime Sports	1	
	Humanities SAC elective	3	
	Humanities SAC elective	3	
	<b>Total Credits:</b>	<b>19</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
HIST 102	American Civilization II	3	
MT 322	Marine Cargo Operations	3	
NAUT 308	Nautical Operations: Safety	2	
NAVG 312	Electr Nav & Voyage Planning	4	
	Humanities SAC elective	3	
	Humanities SAC elective	3	
	<b>Total Credits:</b>	<b>18</b>	

<b>MT 530</b>	<b>Summer Sea Term III</b>	<b>5</b>	
PE 411	Medical Care Provider	1	

**Senior Year**

	<b>Fall Semester</b>	<b>cr.</b>	
GBLW 431	Business Law	3	
MT 412	Deck License Seminar	4	
	Humanities SAC elective	3	
	Humanities SAC elective	3	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>16</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
GBEC 427	Financial Management	3	
<b>HUMN 490</b>	<b>Seminar in Maritime Studies</b>	<b>3</b>	
MT 426	Maritime Communications	3	
NAUT 416	Bridge Watchstanding	3	
	Humanities SAC elective	3	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>18</b>	

**Total Credits for Degree: 158.5**

**Bachelor of Science  
Marine Environmental Science - Deck License  
Marine Biology Minor  
Lower Division**

Courses in **bold** are typically limited to the semester in which they appear.

**Freshman Year**

	<b>Fall Semester</b>	<b>cr.</b>	
CHEM 121	General Chemistry I	3	
CHEM 122	General Chemistry I Laboratory	1	
CS 101	Computer Laboratory	1	
ENGL 101	Freshman English I	3	
LEAD 101	Leadership/Maritime Experience	1	
MATH 111	Applied Calc I (or MATH 101)	4	
PE 101	Lifetime Fitness & Conditioning	1	
PS 111	Professional Studies	2	
PS 112	Basic Safety Training	2	
	<b>Total Credits:</b>	<b>18</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
<b>CHEM 123</b>	<b>General Chemistry II</b>	<b>3</b>	
<b>CHEM 124</b>	<b>General Chemistry II Laboratory</b>	<b>1</b>	
ENGL 102	Freshman English II	3	
<b>MATH 112</b>	<b>Applied Calc II (or MATH 102)</b>	<b>3</b>	
NAUT 102	Intro Vessel Ops & Seamanship	1	
NAVG 112	Terrestrial Navigation	4	
<b>OCEA 101</b>	<b>General Oceanography</b>	<b>4</b>	
PE 103	Water Safety & Survival	1	
	<b>Total Credits:</b>	<b>20</b>	

<b>MT 510</b>	<b>Summer Sea Term I</b>	<b>6</b>	
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**Sophomore Year**

	<b>Fall Semester</b>	<b>cr.</b>	
<b>BIO 201</b>	<b>General Biology</b>	<b>4</b>	
HUMN 201	World Literature & Culture I	3	
MATH 251	Statistics	3	
METE 201	Meteorology for Mariners	3	
MT 250	Ship Construction & Stability	2	
PHYS 211	General Physics I	3	
PHYS 213	General Physics I Lab	0.5	
	<b>Total Credits:</b>	<b>18.5</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
<b>BIO 210</b>	<b>Ecology</b>	<b>3</b>	
<b>CHEM 221</b>	<b>Organic Chemistry</b>	<b>3</b>	
<b>CHEM 222</b>	<b>Organic Chemistry Laboratory</b>	<b>1</b>	
HUMN 202	World Literature & Culture II	3	
NAVG 212	Celestial Navigation	4	
PE 2xx	Lifetime Sports	1	
<b>PHYS 214</b>	<b>General Physics II</b>	<b>4</b>	
<b>PHYS 216</b>	<b>General Physics II Lab</b>	<b>0.5</b>	
	<b>Total Credits:</b>	<b>19.5</b>	

<b>MT 520</b>	<b>Summer Sea Term II</b>	<b>6</b>	
<b>MT 521</b>	<i>or</i> <b>Cadet Commercial Vessel Shipping</b>		

**Total Lower Division Credits                      88**

**Bachelor of Science  
Marine Environmental Science - Deck License  
Marine Biology Minor  
Upper Division**

(1) **Odd years Only.**Courses in **bold** are typically limited to the semester in which they appear.(2) **Even years Only.****Junior Year**

<b>Fall Semester</b>		<b>cr.</b>	
<b>BIO 315</b>	<b>Marine Biology</b>	<b>3</b>	
<b>CHEM 220</b>	<b>Environmental Chemistry</b>	<b>3</b>	<b>(2)</b>
HIST 101	American Civilization I	3	
MT 321	Intro to Cargo Ops & Stability	3	
NAUT 314	Rules of the Road	2	
NAUT 315	Collision Avoidance	3	
	<b>Total Credits:</b>	<b>17</b>	

<b>Spring Semester</b>		<b>cr.</b>	
<b>BIO 320</b>	<b>Invertebrate Zoology</b>	<b>4</b>	<b>(1)</b>
<b>ES 305</b>	<b>Remote Sensing</b>	<b>3</b>	
HIST 102	American Civilization II	3	
MT 322	Marine Cargo Operations	3	
NAUT 308	Nautical Operations: Safety	2	
NAVG 312	Electr Nav & Voyage Planning	4	
	<b>Total Credits:</b>	<b>19</b>	

<b>MT 530</b>	<b>Summer Sea Term III</b>	<b>5</b>	
PE 411	Medical Care Provider	1	

**Senior Year**

<b>Fall Semester</b>		<b>cr.</b>	
<b>BIO 415</b>	<b>Ichthyology</b>	<b>3</b>	
<b>ES 420</b>	<b>Environmental Pollution</b>	<b>3</b>	
<b>GEOL 301</b>	<b>General Geology</b>	<b>3</b>	<b>(1)</b>
MT 412	Deck License Seminar	4	
MT 426	Maritime Communications	3	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>19</b>	

<b>Spring Semester</b>		<b>cr.</b>	
<b>BIO 416</b>	<b>Fisheries Science</b>	<b>3</b>	<b>(2)</b>
GBLW 435	Environmental Law & Policy	3	
NAUT 416	Bridge Watchstanding	3	
<b>OCEA 402</b>	<b>Estuaries &amp; Coastal Processes</b>	<b>3</b>	
	Humanities or SocSci elective	3	
	MES elective	3	
	<b>Total Credits:</b>	<b>18</b>	

**Total Credits for Degree: 167****MES electives****Marine Biology Minor cr.**

ES 410	Marine Microbiology	3
ES 430	Environmntl. Impact Assessment	3
	Alternatively, any course with the prefix BIO, ES, METE or OCEA	3

**Bachelor of Science  
Marine Environmental Science - Intern  
Marine Biology Minor  
Lower Division**

Courses in **bold** are typically limited to the semester in which they appear.

**Freshman Year**

	<b>Fall Semester</b>	<b>cr.</b>	
CHEM 121	General Chemistry I	3	
CHEM 122	General Chemistry I Laboratory	1	
CS 101	Computer Laboratory	1	
ENGL 101	Freshman English I	3	
LEAD 101	Leadership/Maritime Experience	1	
MATH 111	Applied Calc I (or MATH 101)	4	
PE 101	Lifetime Fitness & Conditioning	1	
PS 111	Professional Studies	2	
	<b>Total Credits:</b>	<b>16</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
<b>CHEM 123</b>	<b>General Chemistry II</b>	<b>3</b>	
<b>CHEM 124</b>	<b>General Chemistry II Laboratory</b>	<b>1</b>	
ENGL 102	Freshman English II	3	
<b>MATH 112</b>	<b>Applied Calc II (or MATH 102)</b>	<b>3</b>	
<b>OCEA 101</b>	<b>General Oceanography</b>	<b>4</b>	
PE 100	Swimming	1	
	<b>Total Credits:</b>	<b>15</b>	

**Sophomore Year**

	<b>Fall Semester</b>	<b>cr.</b>	
<b>BIO 201</b>	<b>General Biology</b>	<b>4</b>	
HUMN 201	World Literature & Culture I	3	
MATH 251	Statistics	3	
METE 201	Meteorology for Mariners	3	
PHYS 211	General Physics I	3	
PHYS 213	General Physics I Lab	0.5	
	<b>Total Credits:</b>	<b>16.5</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
<b>BIO 210</b>	<b>Ecology</b>	<b>3</b>	
<b>CHEM 221</b>	<b>Organic Chemistry</b>	<b>3</b>	
<b>CHEM 222</b>	<b>Organic Chemistry Laboratory</b>	<b>1</b>	
HUMN 202	World Literature & Culture II	3	
PE 2xx	Lifetime Sports	1	
<b>PHYS 214</b>	<b>General Physics II</b>	<b>4</b>	
<b>PHYS 216</b>	<b>General Physics II Lab</b>	<b>0.5</b>	
	<b>Total Credits:</b>	<b>15.5</b>	

**Total Lower Division Credits**

**63**



**Bachelor of Science  
Marine Environmental Science - Intern  
Marine Biology Minor  
Upper Division**

(1) **Odd years Only.** Courses in **bold** are typically limited to the semester in which they appear.

(2) **Even years Only.** **Junior Year**

<b>Fall Semester</b>		<b>cr.</b>	
<b>BIO 315</b>	<b>Marine Biology</b>	<b>3</b>	
<b>CHEM 220</b>	<b>Environmental Chemistry</b>	<b>3</b>	<b>(2)</b>
HIST 101	American Civilization I	3	
	MES elective	3	
	<b>Total Credits:</b>	<b>12</b>	

<b>Spring Semester</b>		<b>cr.</b>	
<b>BIO 320</b>	<b>Invertebrate Zoology</b>	<b>4</b>	<b>(1)</b>
<b>ES 305</b>	<b>Remote Sensing</b>	<b>3</b>	
HIST 102	American Civilization II	3	
	Free elective	3	
	Science/Mathematics elective	3	
	<b>Total Credits:</b>	<b>16</b>	

<b>ES 505</b>	<b>Environmental Sci. Internship I</b>	<b>3</b>	
<b>ES 515</b>	<b>Environmental Sci. Internship II</b>	<b>3</b>	

**Senior Year**

<b>Fall Semester</b>		<b>cr.</b>	
<b>BIO 415</b>	<b>Ichthyology</b>	<b>3</b>	
<b>ES 420</b>	<b>Environmental Pollution</b>	<b>3</b>	
<b>GEOL 301</b>	<b>General Geology</b>	<b>3</b>	<b>(1)</b>
	Free elective	3	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>15</b>	

<b>Spring Semester</b>		<b>cr.</b>	
<b>BIO 416</b>	<b>Fisheries Science</b>	<b>3</b>	<b>(2)</b>
GBLW 435	Environmental Law & Policy	3	
<b>OCEA 402</b>	<b>Estuaries &amp; Coastal Processes</b>	<b>3</b>	
	Humanities or SocSci elective	3	
	MES elective	3	
	<b>Total Credits:</b>	<b>15</b>	

**Total Credits for Degree: 127**

**MES electives**

**Marine Biology Minor cr.**

ES 410	Marine Microbiology	3
ES 430	Environmntl. Impact Assessment	3
	Alternatively, any course with the prefix BIO, ES, METE or OCEA	3

**Bachelor of Science  
Marine Environmental Science - Deck License  
Meteorology and Oceanography Minor  
Lower Division**

Courses in **bold** are typically limited to the semester in which they appear.

**Freshman Year**

	<b>Fall Semester</b>	<b>cr.</b>	
CHEM 121	General Chemistry I	3	
CHEM 122	General Chemistry I Laboratory	1	
CS 101	Computer Laboratory	1	
ENGL 101	Freshman English I	3	
LEAD 101	Leadership/Maritime Experience	1	
MATH 111	Applied Calc I (or MATH 101)	4	
PE 101	Lifetime Fitness & Conditioning	1	
PS 111	Professional Studies	2	
PS 112	Basic Safety Training	2	
	<b>Total Credits:</b>	<b>18</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
<b>CHEM 123</b>	<b>General Chemistry II</b>	<b>3</b>	
<b>CHEM 124</b>	<b>General Chemistry II Laboratory</b>	<b>1</b>	
ENGL 102	Freshman English II	3	
<b>MATH 112</b>	<b>Applied Calc II (or MATH 102)</b>	<b>3</b>	
NAUT 102	Intro Vessel Ops & Seamanship	1	
NAVG 112	Terrestrial Navigation	4	
<b>OCEA 101</b>	<b>General Oceanography</b>	<b>4</b>	
PE 103	Water Safety & Survival	1	
	<b>Total Credits:</b>	<b>20</b>	

<b>MT 510</b>	<b>Summer Sea Term I</b>	<b>6</b>	
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**Sophomore Year**

	<b>Fall Semester</b>	<b>cr.</b>	
<b>BIO 201</b>	<b>General Biology</b>	<b>4</b>	
HUMN 201	World Literature & Culture I	3	
MATH 251	Statistics	3	
METE 201	Meteorology for Mariners	3	
MT 250	Ship Construction & Stability	2	
PHYS 211	General Physics I	3	
PHYS 213	General Physics I Lab	0.5	
	<b>Total Credits:</b>	<b>18.5</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
<b>BIO 210</b>	<b>Ecology</b>	<b>3</b>	
<b>CHEM 221</b>	<b>Organic Chemistry</b>	<b>3</b>	
<b>CHEM 222</b>	<b>Organic Chemistry Laboratory</b>	<b>1</b>	
HUMN 202	World Literature & Culture II	3	
NAVG 212	Celestial Navigation	4	
PE 2xx	Lifetime Sports	1	
<b>PHYS 214</b>	<b>General Physics II</b>	<b>4</b>	
<b>PHYS 216</b>	<b>General Physics II Lab</b>	<b>0.5</b>	
	<b>Total Credits:</b>	<b>19.5</b>	

<b>MT 520</b>	<b>Summer Sea Term II</b>	<b>6</b>	
<b>MT 521</b>	<i>or</i> <b>Cadet Commercial Vessel Shipping</b>		

**Total Lower Division Credits                      88**

**Bachelor of Science**  
**Marine Environmental Science - Deck License**  
**Meteorology and Oceanography Minor**  
**Upper Division**

(1) **Odd years Only.**Courses in **bold** are typically limited to the semester in which they appear.(2) **Even years Only.****Junior Year**

	<b>Fall Semester</b>	<b>cr.</b>	
<b>BIO 315</b>	<b>Marine Biology</b>	<b>3</b>	
<b>CHEM 220</b>	<b>Environmental Chemistry</b>	<b>3</b>	<b>(2)</b>
HIST 101	American Civilization I	3	
MT 321	Intro to Cargo Ops & Stability	3	
NAUT 314	Rules of the Road	2	
NAUT 315	Collision Avoidance	3	
	<b>Total Credits:</b>	<b>17</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
<b>ES 305</b>	<b>Remote Sensing</b>	<b>3</b>	
HIST 102	American Civilization II	3	
MT 322	Marine Cargo Operations	3	
NAUT 308	Nautical Operations: Safety	2	
NAVG 312	Electr Nav & Voyage Planning	4	
<b>OCEA 415</b>	<b>Marine Biogeochemistry</b>	<b>3</b>	<b>(1)</b>
<b>OCEA 416</b>	<b>Marine Biogeochemistry Lab</b>	<b>1</b>	<b>(1)</b>
	<b>Total Credits:</b>	<b>19</b>	

<b>MT 530</b>	<b>Summer Sea Term III</b>	<b>5</b>	
PE 411	Medical Care Provider	1	

**Senior Year**

	<b>Fall Semester</b>	<b>cr.</b>	
<b>ES 420</b>	<b>Environmental Pollution</b>	<b>3</b>	
<b>GEOL 301</b>	<b>General Geology</b>	<b>3</b>	<b>(1)</b>
<b>METE 350</b>	<b>Synoptic Meteorology</b>	<b>4</b>	<b>(1)</b>
MT 412	Deck License Seminar	4	
MT 426	Maritime Communications	3	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>20</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
GBLW 435	Environmental Law & Policy	3	
<b>METE 408</b>	<b>Dynamic Meteorology</b>	<b>3</b>	<b>(2)</b>
NAUT 416	Bridge Watchstanding	3	
<b>OCEA 402</b>	<b>Estuaries &amp; Coastal Processes</b>	<b>3</b>	
	Humanities or SocSci elective	3	
	MES elective	3	
	<b>Total Credits:</b>	<b>18</b>	

**Total Credits for Degree: 168****MES electives****Mete. & Ocea. Minor cr.**

METE 402	Tropical Cyclones	3
METE 411	Marine Climatology	3
METE 422	Weather Forecasting	3
OCEA 308	Dynamic Oceanography	3
OCEA 414	Marine Geology	3
	Alternatively, any course with the prefix BIO, ES, METE or OCEA	3

**Bachelor of Science  
Marine Environmental Science - Intern  
Meteorology and Oceanography Minor  
Lower Division**

Courses in **bold** are typically limited to the semester in which they appear.

**Freshman Year**

	<b>Fall Semester</b>	<b>cr.</b>	
CHEM 121	General Chemistry I	3	
CHEM 122	General Chemistry I Laboratory	1	
CS 101	Computer Laboratory	1	
ENGL 101	Freshman English I	3	
LEAD 101	Leadership/Maritime Experience	1	
MATH 111	Applied Calc I (or MATH 101)	4	
PE 101	Lifetime Fitness & Conditioning	1	
PS 111	Professional Studies	2	
	<b>Total Credits:</b>	<b>16</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
<b>CHEM 123</b>	<b>General Chemistry II</b>	<b>3</b>	
<b>CHEM 124</b>	<b>General Chemistry II Laboratory</b>	<b>1</b>	
ENGL 102	Freshman English II	3	
<b>MATH 112</b>	<b>Applied Calc II (or MATH 102)</b>	<b>3</b>	
<b>OCEA 101</b>	<b>General Oceanography</b>	<b>4</b>	
PE 100	Swimming	1	
	<b>Total Credits:</b>	<b>15</b>	

**Sophomore Year**

	<b>Fall Semester</b>	<b>cr.</b>	
<b>BIO 201</b>	<b>General Biology</b>	<b>4</b>	
HUMN 201	World Literature & Culture I	3	
MATH 251	Statistics	3	
METE 201	Meteorology for Mariners	3	
PHYS 211	General Physics I	3	
PHYS 213	General Physics I Lab	0.5	
	<b>Total Credits:</b>	<b>16.5</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
<b>BIO 210</b>	<b>Ecology</b>	<b>3</b>	
<b>CHEM 221</b>	<b>Organic Chemistry</b>	<b>3</b>	
<b>CHEM 222</b>	<b>Organic Chemistry Laboratory</b>	<b>1</b>	
HUMN 202	World Literature & Culture II	3	
PE 2xx	Lifetime Sports	1	
<b>PHYS 214</b>	<b>General Physics II</b>	<b>4</b>	
<b>PHYS 216</b>	<b>General Physics II Lab</b>	<b>0.5</b>	
	<b>Total Credits:</b>	<b>15.5</b>	

**Total Lower Division Credits**

**63**

**Bachelor of Science  
Marine Environmental Science - Intern  
Meteorology and Oceanography Minor  
Upper Division**

(1) **Odd years Only.** Courses in **bold** are typically limited to the semester in which they appear.

(2) **Even years Only.**

**Junior Year**

<b>Fall Semester</b>		<b>cr.</b>	
<b>BIO 315</b>	<b>Marine Biology</b>	<b>3</b>	
<b>CHEM 220</b>	<b>Environmental Chemistry</b>	<b>3</b>	<b>(2)</b>
HIST 101	American Civilization I	3	
	MES elective	3	
	<b>Total Credits:</b>	<b>12</b>	

<b>Spring Semester</b>		<b>cr.</b>	
<b>ES 305</b>	<b>Remote Sensing</b>	<b>3</b>	
HIST 102	American Civilization II	3	
<b>OCEA 415</b>	<b>Marine Biogeochemistry</b>	<b>3</b>	<b>(1)</b>
<b>OCEA 416</b>	<b>Marine Biogeochemistry Lab</b>	<b>1</b>	<b>(1)</b>
	Free elective	3	
	Science/Mathematics elective	3	
	<b>Total Credits:</b>	<b>16</b>	

<b>ES 505</b>	<b>Environmental Sci. Internship I</b>	<b>3</b>	
<b>ES 515</b>	<b>Environmental Sci. Internship II</b>	<b>3</b>	

**Senior Year**

<b>Fall Semester</b>		<b>cr.</b>	
<b>ES 420</b>	<b>Environmental Pollution</b>	<b>3</b>	
<b>GEOL 301</b>	<b>General Geology</b>	<b>3</b>	<b>(1)</b>
<b>METE 350</b>	<b>Synoptic Meteorology</b>	<b>4</b>	<b>(1)</b>
	Free elective	3	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>16</b>	

<b>Spring Semester</b>		<b>cr.</b>	
GBLW 435	Environmental Law & Policy	3	
<b>METE 408</b>	<b>Dynamic Meteorology</b>	<b>3</b>	<b>(2)</b>
<b>OCEA 402</b>	<b>Estuaries &amp; Coastal Processes</b>	<b>3</b>	
	Humanities or SocSci elective	3	
	MES elective	3	
	<b>Total Credits:</b>	<b>15</b>	

**Total Credits for Degree: 128**

**MES electives**

**Mete. & Ocea. Minor cr.**

METE 402	Tropical Cyclones	3
METE 411	Marine Climatology	3
METE 422	Weather Forecasting	3
OCEA 308	Dynamic Oceanography	3
OCEA 414	Marine Geology	3
	Alternatively, any course with the prefix BIO, ES, METE or OCEA	3

**Bachelor of Science  
Marine Operations- Deck License  
Lower Division**

Courses in **bold** are typically limited to the semester in which they appear.

**Freshman Year**

	<b>Fall Semester</b>	<b>cr.</b>	
CS 100	Intro to Business Computing	2	
CS 101	Computer Laboratory	1	
ENGL 101	Freshman English I	3	
LEAD 101	Leadership/Maritime Experience	1	
MATH 111	Applied Calculus I	4	
PE 101	Lifetime Fitness & Conditioning	1	
PS 111	Professional Studies	2	
PS 112	Basic Safety Training	2	
	<b>Total Credits:</b>	<b>16</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
ENGL 102	Freshman English II	3	
GBUS 100	Intro to Business & Economics	3	
MATH 251	Statistics	3	
MT 250	Ship Construction & Stability	2	
NAUT 102	Intro Vessel Ops & Seamanship	1	
NAVG 112	Terrestrial Navigation	4	
PE 103	Water Safety & Survival	1	
	<b>Total Credits:</b>	<b>17</b>	

<b>MT 510</b>	<b>Summer Sea Term I</b>	<b>6</b>	
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**Sophomore Year**

	<b>Fall Semester</b>	<b>cr.</b>	
GBTT 251	Transportation Systems	3	
HIST 101	American Civilization I	3	
HUMN 201	World Literature & Culture I	3	
METE 201	Meteorology for Mariners	3	
MT 435	Maritime Security	3	
PHYS 211	General Physics I	3	
PHYS 213	General Physics I Lab	0.5	
	<b>Total Credits:</b>	<b>18.5</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
<b>ENGR 540</b>	<b>Intro to Ship Systems</b>	<b>3</b>	
GBTT 252	Business of Shipping	3	
HIST 102	American Civilization II	3	
HUMN 202	World Literature & Culture II	3	
NAUT 314	Rules of the Road	2	
NAVG 212	Celestial Navigation	4	
	<b>Total Credits:</b>	<b>18</b>	

<b>MT 520</b>	<b>Summer Sea Term II</b>	<b>6</b>	
<b>MT 521</b>	<b>Cadet Commercial Vessel Shipping</b>		

**Total Lower Division Credits                      81.5**

**Bachelor of Science  
Marine Operations- Deck License  
Upper Division**

Courses in **bold** are typically limited to the semester in which they appear.

**Junior Year**

	<b>Fall Semester</b>	<b>cr.</b>	
ENGL 452	Technical Writing	3	
<b>ENGR 541</b>	<b>Ship Systems I</b>	<b>2</b>	
GBUS 300	International Business	3	
MT 212	Ship Management	3	
MT 321	Intro to Cargo Ops & Stability	3	
NAUT 315	Collision Avoidance	3	
	<b>Total Credits:</b>	<b>17</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
<b>CHEM 100</b>	<b>Introductory Chemistry</b>	<b>3</b>	
MT 322	Marine Cargo Operations	3	
MT 404	Environmental Management	3	
NAUT 308	Nautical Operations: Safety	2	
NAUT 416	Bridge Watchstanding	3	
NAVG 312	Electr Nav & Voyage Planning	4	
	<b>Total Credits:</b>	<b>18</b>	

<b>MT 530</b>	<b>Summer Sea Term III</b>	<b>5</b>	
PE 411	Medical Care Provider	1	

**Senior Year**

	<b>Fall Semester</b>	<b>cr.</b>	
GBTT 457	Port and Terminal Operations	3	
MT 412	Deck License Seminar	4	
MT 426	Maritime Communications	3	
PE 2xx	Lifetime Sports	1	
	GBEC or GBLW elective	3	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>17</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
GBLW 435	Environmental Law & Policy	3	
MT 408	International Safety Mgt	3	
	GBEC or GBLW elective	3	
	Humanities or SocSci elective	3	
	MT or GBAT or PS elective	3	
	Sci/Math elective	3	
	<b>Total Credits:</b>	<b>18</b>	

**Total Credits for Degree: 157.5**

**Bachelor of Science  
Marine Operations - Engine License  
Lower Division**

Courses in **bold** are typically limited to the semester in which they appear.

**Freshman Year**

	<b>Fall Semester</b>	<b>cr.</b>	
CS 100	Intro to Business Computing	2	
CS 101	Computer Laboratory	1	
ENGL 101	Freshman English I	3	
LEAD 101	Leadership/Maritime Experience	1	
MATH 111	Applied Calculus I	4	
PE 101	Lifetime Fitness & Conditioning	1	
PS 111	Professional Studies I	2	
PS 112	Basic Safety Training	2	
	<b>Total Credits:</b>	<b>16</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
<b>CHEM 100</b>	<b>Introductory Chemistry</b>	<b>3</b>	
ENGL 102	Freshman English II	3	
ENGR 100	Engineering Graphics	1	
<b>ENGR 540</b>	<b>Intro to Ship Systems</b>	<b>3</b>	
GBUS 100	Intro to Business & Economics	3	
<b>MATH 112</b>	<b>Applied Calculus II</b>	<b>3</b>	
PE 103	Water Safety & Survival	1	
	<b>Total Credits:</b>	<b>17</b>	

<b>ENGR 510</b>	<b>Summer Sea Term I</b>	<b>6</b>	
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**Sophomore Year**

	<b>Fall Semester</b>	<b>cr.</b>	
CHEM 212	Materials Science I	3	
ENGR 503	Manufacturing Process I	1	
<b>ENGR 541</b>	<b>Ship Systems I</b>	<b>2</b>	
GBTT 251	Transportation Systems	3	
HIST 101	American Civilization I	3	
HUMN 201	World Literature & Culture I	3	
PHYS 211	General Physics I	3	
PHYS 213	General Physics I Lab	0.5	
	<b>Total Credits:</b>	<b>18.5</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
ENGR 504	Manufacturing Process II	1	
<b>ENGR 542</b>	<b>Ship Systems II</b>	<b>2</b>	
GBTT 252	The Business of Shipping	3	
HIST 102	American Civilization II	3	
HUMN 202	World Literature & Culture II	3	
<b>PHYS 214</b>	<b>General Physics II</b>	<b>4</b>	
<b>PHYS 216</b>	<b>General Physics Lab</b>	<b>0.5</b>	
	<b>Total Credits:</b>	<b>16.5</b>	

<b>ENGR 520</b>	<b>Summer Sea Term II</b>	<b>6</b>	
<b>ENGR 521</b>	<i>or</i> <b>Cadet Commercial Vessel Shipping</b>		

**Total Lower Division Credits**

**80**



**Bachelor of Science  
Marine Operations- Engine License  
Upper Division**

Courses in **bold** are typically limited to the semester in which they appear.

**Junior Year**

	<b>Fall Semester</b>	<b>cr.</b>	
ENGL 452	Technical Writing	3	
ENGR 242	Statics	3	
<b>ENGR 243</b>	<b>Transport Processes</b>	<b>3</b>	
ENGR 290	Electrical Engineering I	3	
<b>ENGR 543</b>	<b>Ship Systems III</b>	<b>3</b>	
MT 212	Ship Management	3	
	<b>Total Credits:</b>	<b>18</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
ENGR 371	Applied Naval Architecture	3	
ENGR 380	Electrical Engineering II	3	
<b>ENGR 544</b>	<b>Ship Systems IV</b>	<b>3</b>	
MATH 251	Statistics	3	
NAUT 308	Nautical Operations: Safety	2	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>17</b>	

<b>ENGR 530</b>	<b>Summer Sea Term III</b>	<b>5</b>	
ENGR 516	Engine License Seminar	0	
PE 411	Medical Care Provider	1	

**Senior Year**

	<b>Fall Semester</b>	<b>cr.</b>	
GBTT 457	Port and Terminal Operations	3	
GBUS 300	International Business	3	
MT 408	International Safety Mgt	3	
	Humanities or SocSci elective	3	
	MT or GBAT or PS elective	3	
	MT or GBAT or PS elective	3	
	<b>Total Credits:</b>	<b>18</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
<b>ENGR 446</b>	<b>Marine Engine Theory &amp; Appl.</b>	<b>3</b>	
GBLW 435	Environmental Law & Policy	3	
MT 435	Maritime Security	3	
PE 2xx	Lifetime Sports	1	
	MT or GBAT or PS elective	3	
	Sci/Math elective	3	
	<b>Total Credits:</b>	<b>16</b>	

**Total Credits for Degree: 155**

**Bachelor of Science  
Marine Transportation - Deck License  
Common Lower Division Curricula**

This page shows the common first two years for all students majoring in Marine Transportation.

**Freshman Year**

	<b>Fall Semester</b>	<b>cr.</b>	
CS 100	Intro to Business Computing	2	
CS 101	Computer Laboratory	1	
ENGL 101	Freshman English I	3	
LEAD 101	Leadership/Maritime Experience	1	
MATH 111	Applied Calculus I	4	
PE 101	Lifetime Fitness & Conditioning	1	
PS 111	Professional Studies	2	
PS 112	Basic Safety Training	2	
	<b>Total Credits:</b>	<b>16</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
ENGL 102	Freshman English II	3	
GBUS 100	Intro to Business & Economics	3	
MATH 251	Statistics	3	
MT 250	Ship Construction & Stability	2	
NAUT 102	Intro Vessel Ops & Seamanship	1	
NAVG 112	Terrestrial Navigation	4	
PE 103	Water Safety & Survival	1	
	<b>Total Credits:</b>	<b>17</b>	

<b>MT 510</b>	<b>Summer Sea Term I</b>	<b>6</b>	
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**Sophomore Year**

	<b>Fall Semester</b>	<b>cr.</b>	
GBEC 121	Macroeconomics	3	
GBTT 251	Transportation Systems	3	
HUMN 201	World Literature & Culture I	3	
METE 201	Meteorology for Mariners	3	
MT 435	Maritime Security	3	
PHYS 211	General Physics I	3	
PHYS 213	General Physics I Lab	0.5	
	<b>Total Credits:</b>	<b>18.5</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
GBAC 311	Financial Accounting	3	
GBEC 122	Microeconomics	3	
GBTT 252	Business of Shipping	3	
<i>MT 212</i>	<i>Ship Management *</i>		
HUMN 202	World Literature & Culture II	3	
NAUT 314	Rules of the Road	2	
NAVG 212	Celestial Navigation	4	
	<b>Total Credits:</b>	<b>18</b>	

\* for students pursuing minor in  
Ship Management

<b>MT 520</b>	<b>Summer Sea Term II</b>	<b>6</b>	
<b>MT 521</b>	<i>or</i> <b>Cadet Commercial Vessel Shipping</b>		

**Total Lower Division Credits:                    81.5**

**Bachelor of Science  
Marine Transportation - Deck License  
Lower Division**

**Freshman Year**

<b>Fall Semester</b>		<b>cr.</b>	
CS 100	Intro to Business Computing	2	
CS 101	Computer Laboratory	1	
ENGL 101	Freshman English I	3	
LEAD 101	Leadership/Maritime Experience	1	
MATH 111	Applied Calculus I	4	
PE 101	Lifetime Fitness & Conditioning	1	
PS 111	Professional Studies	2	
PS 112	Basic Safety Training	2	
<b>Total Credits:</b>		<b>16</b>	

<b>Spring Semester</b>		<b>cr.</b>	
ENGL 102	Freshman English II	3	
GBUS 100	Intro to Business & Economics	3	
MATH 251	Statistics	3	
MT 250	Ship Construction & Stability	2	
NAUT 102	Intro Vessel Ops & Seamanship	1	
NAVG 112	Terrestrial Navigation	4	
PE 103	Water Safety & Survival	1	
<b>Total Credits:</b>		<b>17</b>	

<b>MT 510</b>	<b>Summer Sea Term I</b>	<b>6</b>	
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**Sophomore Year**

<b>Fall Semester</b>		<b>cr.</b>	
GBEC 121	Macroeconomics	3	
GBT 251	Transportation Systems	3	
HUMN 201	World Literature & Culture I	3	
METE 201	Meteorology for Mariners	3	
MT 435	Maritime Security	3	
PHYS 211	General Physics I	3	
PHYS 213	General Physics I Lab	0.5	
<b>Total Credits:</b>		<b>18.5</b>	

<b>Spring Semester</b>		<b>cr.</b>	
GBAC 311	Financial Accounting	3	
GBEC 122	Microeconomics	3	
GBT 252	Business of Shipping	3	
HUMN 202	World Literature & Culture II	3	
NAUT 314	Rules of the Road	2	
NAVG 212	Celestial Navigation	4	
<b>Total Credits:</b>		<b>18</b>	

<b>MT 520</b>	<b>Summer Sea Term II</b>	<b>6</b>	
<b>MT 521</b>	<i>or</i> <b>Cadet Commercial Vessel Shipping</b>		

**Total Lower Division Credits: 81.5**

**Bachelor of Science  
Marine Transportation - Deck License  
Upper Division**

Courses in **bold** are typically limited to the semester in which they appear.

**Junior Year**

	<b>Fall Semester</b>	<b>cr.</b>	
ENGL 452	Technical Writing	3	
GBMG 341	Organizational Management	3	
GBMG 345	Fundamentals of Marketing	3	
HIST 101	American Civilization I	3	
MT 321	Intro to Cargo Ops & Stability	3	
NAUT 315	Collision Avoidance	3	
PE 2xx	Lifetime Sports	1	
	<b>Total Credits:</b>	<b>19</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
GBEC 424	International Econ. & Finance	3	
HIST 102	American Civilization II	3	
MT 322	Marine Cargo Operations	3	
MT 404	Environmental Management	3	
NAUT 308	Nautical Operations: Safety	2	
NAVG 312	Electr Nav & Voyage Planning	4	
	<b>Total Credits:</b>	<b>18</b>	

<b>MT 530</b>	<b>Summer Sea Term III</b>	<b>5</b>	
PE 411	Medical Care Provider	1	

**Senior Year**

	<b>Fall Semester</b>	<b>cr.</b>	
GBLW 431	Business Law	3	
GBUS 300	International Business	3	
MT 412	Deck License Seminar	4	
MT 426	Maritime Communications	3	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>16</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
<b>GBEC 429</b>	<b>Seminar: Transport. Economics</b>	<b>3</b>	
	<i>or</i>		
<b>GBMG 440</b>	<b>Seminar: Strategy and Policy</b>		
MATH 446	Operations Research	3	
NAUT 416	Bridge Watchstanding	3	
	Humanities or SocSci elective	3	
	MT or PS elective	3	
	MT or PS elective	3	
	<b>Total Credits:</b>	<b>18</b>	

**Total Credits for Degree: 158.5**

**Bachelor of Science  
Marine Transportation - Deck License  
Ship Management Minor  
Lower Division**

**Freshman Year**

	<b>Fall Semester</b>	<b>cr.</b>	
CS 100	Intro to Business Computing	2	
CS 101	Computer Laboratory	1	
ENGL 101	Freshman English I	3	
LEAD 101	Leadership/Maritime Experience	1	
MATH 111	Applied Calculus I	4	
PE 101	Lifetime Fitness & Conditioning	1	
PS 111	Professional Studies	2	
PS 112	Basic Safety Training	2	
	<b>Total Credits:</b>	<b>16</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
ENGL 102	Freshman English II	3	
GBUS 100	Intro to Business & Economics	3	
MT 250	Ship Construction & Stability	2	
NAUT 102	Intro Vessel Ops & Seamanship	1	
NAVG 112	Terrestrial Navigation	4	
PE 103	Water Safety & Survival	1	
MATH 251	Statistics	3	
	<b>Total Credits:</b>	<b>17</b>	

<b>MT 510</b>	<b>Summer Sea Term I</b>	<b>6</b>	
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**Sophomore Year**

	<b>Fall Semester</b>	<b>cr.</b>	
GBEC 121	Macroeconomics	3	
GBTT 251	Transportation Systems	3	
HUMN 201	World Literature & Culture I	3	
METE 201	Meteorology for Mariners	3	
MT 435	Maritime Security	3	
PHYS 211	General Physics I	3	
PHYS 213	General Physics I Lab	0.5	
	<b>Total Credits:</b>	<b>18.5</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
GBAC 311	Financial Accounting	3	
GBEC 122	Microeconomics	3	
<i>MT 212</i>	<i>Ship Management</i>	3	
HUMN 202	World Literature & Culture II	3	
NAUT 314	Rules of the Road	2	
NAVG 212	Celestial Navigation	4	
	<b>Total Credits:</b>	<b>18</b>	

<b>MT 520</b>	<b>Summer Sea Term II</b>	<b>6</b>	
<b>MT 521</b>	<i>or</i> <b>Cadet Commercial Vessel Shipping</b>		

**Total Lower Division Credits: 81.5**

The courses constituting the Minor are listed above in *italics* .

**Bachelor of Science  
Marine Transportation - Deck License  
Ship Management Minor  
Upper Division**

Courses in **bold** are typically limited to the semester in which they appear.

**Junior Year**

	<b>Fall Semester</b>	<b>cr.</b>	
ENGL 452	Technical Writing	3	
GBMG 341	Organizational Management	3	
HIST 101	American Civilization I	3	
MT 321	Intro to Cargo Ops & Stability	3	
MT 426	Maritime Communications	3	
NAUT 315	Collision Avoidance	3	
PE 2xx	Lifetime Sports	1	
NAUT 308	Nautical Operations: Safety	2	
	<b>Total Credits:</b>	<b>21</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
GBEC 424	International Economics and Finance	3	
HIST 102	American Civilization II	3	
MT 322	Marine Cargo Operations	3	
MT 404	Environmental Management	3	
NAUT 416	Bridge Watchstanding	3	
NAVG 312	Electr Nav & Voyage Planning	4	
	<b>Total Credits:</b>	<b>19</b>	

<b>MT 530</b>	<b>Summer Sea Term III</b>	<b>5</b>	
PE 411	Medical Care Provider	1	

**Senior Year**

	<b>Fall Semester</b>	<b>cr.</b>	
GBLW 431	Business Law	3	
<b>GBLW 437</b>	<b>International Law</b>	<b>3</b>	
GBUS 300	International Business	3	
MT 412	Deck License Seminar	4	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>16</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
<b>GBEC 429</b>	<b>Seminar: Transport. Economics</b>	<b>3</b>	
	<i>or</i>		
<b>GBMG 440</b>	<b>Seminar: Strategy and Policy</b>		
<b>GBMG 443</b>	<b>Cross-Cultural Management</b>	<b>3</b>	
MATH 446	Operations Research	3	
<i>MT 350</i>	<i>Haz Mat &amp; Oil Spill Response</i>	3	
<i>MT 408</i>	<i>International Safety Management</i>	3	
	Humanities or SocSci elective	3	
	<b>Total Credits:</b>	<b>18</b>	

**Total Credits for Degree:                    161.5**

The courses constituting the Minor are listed above in *italics*.

**Bachelor of Science  
Maritime Studies - Intern  
Lower Division**

Courses in **bold** are typically limited to the semester in which they appear.

**Freshman Year**

	<b>Fall Semester</b>	<b>cr.</b>	
CS 100	Intro to Business Computing	2	
CS 101	Computer Laboratory	1	
ENGL 101	Freshman English I	3	
GBUS 100	Intro to Business & Economics	3	
LEAD 101	Leadership/Maritime Experience	1	
MATH 090	Intro to College Mathematics	4	
	or		
MATH 111	Applied Calculus I		
PS 111	Professional Studies	2	
	<b>Total Credits:</b>	<b>16</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
<b>CHEM 100</b>	<b>Introductory Chemistry</b>	<b>3</b>	
ENGL 102	Freshman English II	3	
GBEC 121	Macroeconomics	3	
HIST 101	American Civilization I	3	
MATH 251	Statistics	3	
PE 100	Swimming	1	
	<b>Total Credits:</b>	<b>16</b>	

**Sophomore Year**

	<b>Fall Semester</b>	<b>cr.</b>	
GBEC 122	Microeconomics	3	
GBTT 251	Transportation Systems	3	
HIST 102	American Civilization II	3	
HUMN 201	World Literature & Culture I	3	
METE 201	Meteorology for Mariners	3	
PE 101	Lifetime Fitness & Conditioning	1	
	<b>Total Credits:</b>	<b>16</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
GBTT 252	Business of Shipping	3	
HUMN 202	World Literature & Culture II	3	
<b>OCEA 101</b>	<b>Oceanography</b>	<b>4</b>	
PE 2xx	Lifetime Sports	1	
	Humanities elective - Arts	3	
	Humanities elective - General	3	
	<b>Total Credits:</b>	<b>17</b>	

**Total Lower Division Credits: 65**

**Bachelor of Science  
Maritime Studies - Intern  
Upper Division**

Courses in **bold** are typically limited to the semester in which they appear.

**Junior Year**

	<b>Fall Semester</b>	<b>cr.</b>	
<b>BIO 201</b>	<b>General Biology</b>	<b>4</b>	
ENGL 452	Technical Writing	3	
HIST 416	US Maritime History to the Civil War or	3	
HIST 417	US Maritime History Since 1865		
	Humanities elective -World	3	
	Humanities elective - General	3	
	<b>Total Credits:</b>	<b>16</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
BIO XXX	Biology elective		
	<i>or</i>		
OCEA XXX	Oceanography elective	3	
	<i>or</i>		
METE XXX	Meteorology elective		
	Humanities elective -World	3	
	Humanities elective - Arts	3	
	Humanities elective - General	3	
	Law elective	3	
	Free elective	3	
	<b>Total Credits:</b>	<b>18</b>	

**Senior Year**

	<b>Fall Semester</b>	<b>cr.</b>	
HUMN 465	Humanities Research Methods	3	
HUMN 505	Humanities Internship I	3	
	Free elective	3	
	Humanities elective - General	3	
	Humanities elective - Maritime	3	
	<b>Total Credits:</b>	<b>15</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
ENGL 426	Literature of Science		
	<i>or</i>		
HIST 465	History of Science	3	
<b>HUMN 490</b>	<b>Seminar in Maritime Studies</b>	<b>3</b>	
HUMN 515	Humanities Internship II		
	<i>or</i>		
	Free elective	3	
	Humanities elective - Maritime	3	
	Humanities elective - General	3	
	<b>Total Credits:</b>	<b>15</b>	

**Total Credits for Degree:**

**129**

The designation of Humanities electives as General, Arts, World or Maritime applies **only** to the Maritime Studies major. A list of current Humanities electives and their designations is always available in the Humanities Department Office.

Each single course can be used to fulfill only *one* degree requirement even if it has multiple designations.

For example, a course designated as both General and World can be used to satisfy a General **or** World requirement, not both.



**Associate in Applied Science  
Marine Technology: Small Vessel Operations  
Assistant Engineer Limited License**

Courses in **bold** are typically limited to the semester in which they appear.

**Freshman Year**

	<b>Fall Semester</b>	<b>cr.</b>	
CS 101	Computer Laboratory	1	
ENGL 101	Freshman English I	3	
ENGR 503	Manufacturing Proc. I	1	
GBUS 100	Intro Business & Economics	3	
LEAD 101	Leadership and the Maritime Experience	1	
MATH 090	Intro to College Math	4	
PE 103	Water Safety & Survival	1	
PS 112	Basic Safety Training	2	
	<b>Total Credits:</b>	<b>16</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
ENGL 102	Freshman English II	3	
ENGR 100	Engineering Graphics	1	
ENGR 504	Manufacturing Processes II	1	
<b>ENGR 540</b>	<b>Introduction to Ship Systems</b>	<b>3</b>	
MATH 251	Statistics	3	
PS 111	Professional Studies	2	
	Science elective *	3	
	<b>Total Credits:</b>	<b>16</b>	

\* **CHEM 100** or PHYS 211 with PHYS 213 (lab)

<b>ENGR 510</b>	<b>Summer Sea Term I</b>	<b>6</b>	
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**Sophomore Year**

	<b>Fall Semester</b>	<b>cr.</b>	
<b>ENGR 541</b>	<b>Ships Systems I</b>	<b>2</b>	
ENGR 561	Small Vessels Engineer I	4	
HIST 101	American Civilization I	3	
MT 250	Ship Construction & Stability	2	
NAUT 308	Nautical Ops: Safety	2	
PE 101	Lifetime Fitness and Conditioning	1	
PS 410	The Business of Towing	3	
	<b>Total Credits:</b>	<b>17</b>	

	<b>Spring Semester</b>	<b>cr.</b>	
<b>ENGR 542</b>	<b>Ship Systems II</b>	<b>2</b>	
ENGR 562	Small Vessels Engineer II	4	
MT 322	Marine Cargo Operations	3	
MTEO 201	Small Vessel Resource Mgmt	3	
PE 411	Medical Care Provider	1	
	Free elective	3	
	<b>Total Credits:</b>	<b>16</b>	

<b>MTEO 521</b>	<b>Cadet Com Vessel Asst Engr I</b>	<b>2</b>	
<b>MTEO 522</b>	<b>Cadet Com Vessel Asst Engr II</b>	<b>2</b>	
<b>MTEO 523</b>	<b>Cadet Com Vessel Asst Engr III</b>	<b>2</b>	

**Total Credits for Degree                      77**

**Associate in Applied Science  
Marine Technology: Small Vessel Operations  
Deck Limited License**

**Freshman Year**

<b>Fall Semester</b>		<b>cr.</b>	
CS 100	Intro To Business Computing	2	
CS 101	Computer Laboratory	1	
ENGL 101	Freshman English I	3	
LEAD 101	Leadership/Maritime Experience	1	
MATH 090	Intro to College Math	4	
PE 103	Water Safety & Survival	1	
PS 111	Professional Studies	2	
PS 112	Basic Safety Training	2	
<b>Total Credits:</b>		<b>16</b>	

<b>Spring Semester</b>		<b>cr.</b>	
ENGL 102	Freshman English II	3	
GBUS 100	Intro to Business and Economics	3	
HIST 101	American Civilization I	3	
MT 250	Ship Construction & Stability	2	
NAUT 102	Intro Vessel Ops & Seamanship	1	
NAVG 112	Terrestrial Navigation	4	
PE 101	Lifetime Fitness & Conditioning	1	
<b>Total Credits:</b>		<b>17</b>	

<b>MT 510</b>	<b>Summer Sea Term I</b>	<b>6</b>	
<b>MTDO 524*</b>	<b>Cadet Com Vessel Ship Lim Ton I</b>	<b>2</b>	

\* MT 520 Summer Sea Term II 6  
may be substituted for MTDO 524. Note  
that MT 520 has prerequisites of MT 510,  
METE 201, NAVG 212.

**Sophomore Year**

<b>Fall Semester</b>		<b>cr.</b>	
METE 201	Meteorology for Mariners	3	
MT 321	Intro to Cargo Ops & Stability	3	
NAUT 308	Nautical Operations: Safety	2	
NAUT 314	Rules of the Road	2	
NAUT 315	Collision Avoidance	3	
PS 410	The Business of Towing	3	
<b>Total Credits:</b>		<b>16</b>	

<b>Spring Semester</b>		<b>cr.</b>	
MT 322	Marine Cargo Operations	3	
NAUT 416	Bridge Watchstanding	3	
NAVG 312	Electr Nav & Voyage Planning	4	
PE 411	Medical Care Provider	1	
PS 411	Towing Operations	3	
<b>Total Credits:</b>		<b>14</b>	

**with Ocean Endorsement Option:**

MT 426	Maritime Communications	3	
NAVG 212	Celestial Navigation	4	
<b>Total Credits:</b>		<b>21</b>	

PS 210	ECDIS – Limited Deck License	1	
<b>MTDO 525</b>	<b>Cadet Com Vessel Ship Lim Ton II</b>	<b>4</b>	

**Total Credits for Degree 76**  
**with Ocean Endorsement 83**