



UNDERGRADUATE DEGREE CURRICULA

For Students Entering
Maritime College
During
2016-17 Academic Year

As of August 11, 2016

UNDERGRADUATE DEGREE CURRICULA

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DEGREE CURRICULA NOTES

A student is responsible for knowing when their 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 their 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, they 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.

DEFINITIONS FOR ELECTIVE CATEGORIES

A **Free Elective** is defined as any course numbered 100 or higher, *not required by the student's degree program*. The sum of credits earned through Free Electives must equal the total required for the given degree program. Pass/Fail courses cannot be used as Free Electives.

An **Engineering (ENGR) Elective** is defined as any one of the following courses, *not required by the student's degree program*: any course numbered ENGR 3xx, 4xx, 50x, 54x, or 6xx; CHEM 213, CHEM 220, ES 420, ES 430, MATH 446, OCEA 308, OCEA 425, NVSC 304; and other courses with the Engineering Chair's approval.

A **Global Business and Transportation (GBAT) Elective** is defined as any one of the following courses, *not required by the student's degree program*: MT 350, MT 408, MT 430, MT 435, NVSC 201, all courses with the prefix GBAC, GBEC, GBLW, GBMG, GBTT, or GBUS.

A **Humanities (HUMN) Elective** is defined as any one of the following courses, *not required by the student's degree program*: CHIN 101 or higher; ENGL 200 or higher (except ENGL 452); HIST 200 or higher; HUMN 300 or higher; NVSC 102, 311 and 402; SPAN 101 or higher.

A **Law Elective** is any course from the following list, *not required by the student's degree program*: GBLW 431, GBLW 433, GBLW 435, GBLW 437, GBMG 348, HUMN 430, MT 404.

A **Liberal Arts & Sciences (LAS) Elective** is defined as any one of the following courses, *not required by the student's degree program*: CHIN 101 or higher; ENGL 200 or higher (except ENGL 452); GBEC 121, 122, 424, 428; GBLW 435; HIST 200 or higher; HUMN 300 or higher; MATH 101 or higher; NVSC 102, 311 and 402; SPAN 101 or higher; SS 101 or higher; all courses with the prefix BIO, CHEM, ES, GEOL, METE, OCEA, or PHYS.

A **Marine Environmental Science (MES) Elective** is any BIO, ES, METE, or OCEA course numbered 300 or higher *not required by the student's degree program*.

A **Marine Transportation (MT) Elective** is any course from the following list, *not required by the student's degree program*: MT 212, MT 350, MT 404, MT 408, MT 430, MT 435, MT 450, NAUT 420, NAUT 476.

A **Physical Education (PE) Elective** is any course with the prefix PE *not required by the student's degree program*.

A **Professional Studies (PS) Elective** is any course from the following list, *not required by the student's degree program*: PS 120, PS 410, PS 411, PS 414, ENGR 561, ENGR 562.

B.E. in Electrical Engineering with Deck License

Fall Semester

Spring Semester

Lower Division - Freshman Year

| | | | | |
|-------------------|----------|--------------------------------|----|--|
| | CHEM 121 | General Chemistry I | 3 | |
| | CHEM 122 | General Chemistry I Laboratory | 1 | |
| | ENGL 101 | Freshman English I | 3 | |
| | ENGR 110 | Intro to Engineering Practice | 2 | |
| | LEAD 101 | Leadership/Maritime Experience | 1 | |
| | MATH 101 | Calculus I | 4 | |
| L | PS 103 | Water Safety & Survival | 1 | |
| L | PS 112 | STCW Basic Training | 2 | |
| Semester Credits: | | | 17 | |

| | | | | |
|-------------------|----------|-----------------------------------|------|--|
| | ENGL 103 | Freshman English II for Engineers | 3 | |
| | ENGR 100 | Engineering Graphics | 1 | |
| | ENGR 120 | Programming for Engineers | 2 | |
| | MATH 102 | Calculus II | 4 | |
| L | NAUT 102 | Intro to Vessel Ops & Smnship | 1 | |
| L | NAVG 112 | Terrestrial Navigation | 4 | |
| | PHYS 102 | Engineering Physics I | 4 | |
| | PHYS 104 | Engineering Physics I Laboratory | 0.5 | |
| Semester Credits: | | | 19.5 | |

| | | | | |
|---|---------------|--------------------------|---|--|
| L | MT 510 | Summer Sea Term I | 6 | |
|---|---------------|--------------------------|---|--|

Lower Division - Sophomore Year

| | | | | |
|-------------------|----------|-----------------------------------|------|--|
| | ENGR 242 | Statics | 3 | |
| | HUMN 201 | World Literature & Culture I | 3 | |
| | MATH 211 | Calculus III | 4 | |
| L | METE 201 | Meteorology for Mariners | 3 | |
| | PHYS 201 | Engineering Physics II | 4 | |
| | PHYS 203 | Engineering Physics II Laboratory | 0.5 | |
| Semester Credits: | | | 17.5 | |

| | | | | |
|-------------------|-----------------|-------------------------------|----|--|
| | CHEM 212 | Materials Science I | 3 | |
| | ENGR 290 | Electrical Engineering I | 3 | |
| | ENGR 292 | Digital Electronics | 4 | |
| | HUMN 202 | World Literature & Culture II | 3 | |
| | MATH 212 | Differential Equations | 4 | |
| L | NAVG 212 | Celestial Navigation | 4 | |
| Semester Credits: | | | 21 | |

| | | | | | | | | | |
|---|---------------|---------------------------|---|----|---|---------------|-----------------------------------|---|--|
| L | MT 520 | Summer Sea Term II | 6 | OR | L | MT 521 | Cadet Comm Vessel Shipping | 6 | |
|---|---------------|---------------------------|---|----|---|---------------|-----------------------------------|---|--|

Upper Division - Junior Year

| | | | | |
|-------------------|-----------------|----------------------------------|----|--|
| | ENGR 345 | Engineering Statistical Analysis | 3 | |
| | ENGR 383 | Network Analysis | 3 | |
| | ENGR 387 | Analog Electronics | 4 | |
| | ENGR 394 | Electromagnetic Fields | 3 | |
| L | NAUT 314 | Rules of the Road | 2 | |
| L | NAUT 315 | Collision Avoidance | 3 | |
| Semester Credits: | | | 18 | |

| | | | | |
|-------------------|-----------------|------------------------------------|----|--|
| | ENGR 314 | Engineering Economics | 3 | |
| | ENGR 384 | Power Electronics | 3 | |
| | ENGR 395 | Electric Machines | 3 | |
| L | MT 250 | Ship Const & Stability (Unltd Lic) | 2 | |
| L | NAUT 308 | Nautical Operations: Safety | 2 | |
| L | NAVG 312 | Electr Nav & Voyage Planning | 4 | |
| Semester Credits: | | | 17 | |

| | | | | |
|---|---------------|----------------------------|---|--|
| L | MT 530 | Summer Sea Term III | 5 | |
| L | PS 412 | Medical Care Provider | 1 | |

Upper Division - Senior Year

| | | | | |
|-------------------|-----------------|--------------------------------|----|--|
| | ENGR 481 | Communications Theory | 3 | |
| | ENGR 484 | Electric Drives | 3 | |
| | ENGR 488 | Electrical Design I | 4 | |
| | HIST 101 | American Civilization I | 3 | |
| L | MT 321 | Intro to Cargo Ops & Stability | 3 | |
| | | Free Elective | 3 | |
| Semester Credits: | | | 19 | |

| | | | | |
|-------------------|-----------------|-------------------------------------|----|--|
| | ENGR 428 | Computerized Control Systems | 3 | |
| | ENGR 483 | Control System Theory | 3 | |
| | ENGR 489 | Electrical Design II | 4 | |
| | ENGR 495 | Marine Electrical Systems | 3 | |
| L | MT 322 | Marine Cargo Operations | 3 | |
| Semester Credits: | | | 16 | |

9th Semester

| | | | | |
|-------------------|----------|----------------------------------|----|--|
| | HIST 102 | American Civilization II | 3 | |
| L | MT 412 | Deck License Seminar | 4 | |
| L | MT 426 | Maritime Communications | 3 | |
| L | NAUT 416 | Bridge Resource Mgmt (Unltd Lic) | 3 | |
| | | Free Elective | 3 | |
| Semester Credits: | | | 16 | |

USCG License Exam:

Lower Division Credits:

Upper Division Credits:

License Credits (L in left column):

Total Credits:

Note: Though not required for your license, students who plan to sail are strongly advised to take MT 435 (Maritime Security) in addition to the courses above.

Courses in **bold type** are typically limited to the semester shown.

B.E. in Electrical Engineering with Engine License

Fall Semester

Spring Semester

Lower Division - Freshman Year

| | | | | |
|-------------------|----------|--------------------------------|----|--|
| | CHEM 121 | General Chemistry I | 3 | |
| | CHEM 122 | General Chemistry I Laboratory | 1 | |
| | ENGL 101 | Freshman English I | 3 | |
| | ENGR 110 | Intro to Engineering Practice | 2 | |
| | LEAD 101 | Leadership/Maritime Experience | 1 | |
| | MATH 101 | Calculus I | 4 | |
| L | PS 103 | Water Safety & Survival | 1 | |
| L | PS 112 | STCW Basic Training | 2 | |
| Semester Credits: | | | 17 | |

| | | | | |
|-------------------|-----------------|-------------------------------------|------|--|
| | ENGL 103 | Freshman English II for Engineers | 3 | |
| | ENGR 100 | Engineering Graphics | 1 | |
| | ENGR 120 | Programming for Engineers | 2 | |
| L | ENGR 540 | Introduction to Ship Systems | 3 | |
| | MATH 102 | Calculus II | 4 | |
| | PHYS 102 | Engineering Physics I | 4 | |
| | PHYS 104 | Engineering Physics I Laboratory | 0.5 | |
| Semester Credits: | | | 17.5 | |

| | | | | |
|---|-----------------|--------------------------|---|--|
| L | ENGR 510 | Summer Sea Term I | 6 | |
|---|-----------------|--------------------------|---|--|

Lower Division - Sophomore Year

| | | | | |
|-------------------|-----------------|-----------------------------------|------|--|
| | ENGR 242 | Statics | 3 | |
| L | ENGR 503 | Manufacturing Processess I | 1 | |
| L | ENGR 542 | Ship Systems II | 2 | |
| | HUMN 201 | World Literature & Culture I | 3 | |
| | MATH 211 | Calculus III | 4 | |
| | PHYS 201 | Engineering Physics II | 4 | |
| | PHYS 203 | Engineering Physics II Laboratory | 0.5 | |
| Semester Credits: | | | 17.5 | |

| | | | | |
|-------------------|-----------------|-------------------------------|----|--|
| | CHEM 212 | Materials Science I | 3 | |
| | ENGR 290 | Electrical Engineering I | 3 | |
| | ENGR 292 | Digital Electronics | 4 | |
| L | ENGR 504 | Manufacturing Processess II | 1 | |
| L | ENGR 541 | Ship Systems I | 2 | |
| | HUMN 202 | World Literature & Culture II | 3 | |
| | MATH 212 | Differential Equations | 4 | |
| Semester Credits: | | | 20 | |

| | | | | | | | | | |
|---|-----------------|---------------------------|---|----|---|-----------------|-----------------------------------|---|--|
| L | ENGR 520 | Summer Sea Term II | 6 | OR | L | ENGR 521 | Cadet Comm Vessel Shipping | 6 | |
|---|-----------------|---------------------------|---|----|---|-----------------|-----------------------------------|---|--|

Upper Division - Junior Year

| | | | | |
|-------------------|-----------------|----------------------------------|----|--|
| | ENGR 345 | Engineering Statistical Analysis | 3 | |
| | ENGR 383 | Network Analysis | 3 | |
| | ENGR 387 | Analog Electronics | 4 | |
| | ENGR 394 | Electromagnetic Fields | 3 | |
| L | ENGR 543 | Ship Systems III | 3 | |
| | HIST 101 | American Civilization I | 3 | |
| Semester Credits: | | | 19 | |

| | | | | |
|-------------------|-----------------|-----------------------------|----|--|
| | ENGR 314 | Engineering Economics | 3 | |
| | ENGR 384 | Power Electronics | 3 | |
| | ENGR 395 | Electric Machines | 3 | |
| L | ENGR 544 | Ship Systems IV | 4 | |
| | HIST 102 | American Civilization II | 3 | |
| L | NAUT 308 | Nautical Operations: Safety | 2 | |
| Semester Credits: | | | 18 | |

| | | | | |
|---|-----------------|----------------------------|---|--|
| L | ENGR 516 | Engine License Seminar | 0 | |
| L | ENGR 530 | Summer Sea Term III | 5 | |
| L | PS 412 | Medical Care Provider | 1 | |

Upper Division - Senior Year

| | | | | |
|-------------------|-----------------|------------------------------|----|--|
| L | ENGR 371 | Applied Naval Architecture | 3 | |
| | ENGR 481 | Communications Theory | 3 | |
| | ENGR 484 | Electric Drives | 3 | |
| | ENGR 488 | Electrical Design I | 4 | |
| | | Free Elective | 3 | |
| Semester Credits: | | | 16 | |

| | | | | |
|-------------------|-----------------|-------------------------------------|----|--|
| | ENGR 428 | Computerized Control Systems | 3 | |
| | ENGR 483 | Control System Theory | 3 | |
| | ENGR 489 | Electrical Design II | 4 | |
| | ENGR 495 | Marine Electrical Systems | 3 | |
| | | Free Elective | 3 | |
| Semester Credits: | | | 16 | |

USCG License Exam:

Lower Division Credits:

Upper Division Credits:

License Credits (L in left column):

Total Credits:

B.E. in Electrical Engineering with Internship

Fall Semester

Spring Semester

Lower Division - Freshman Year

| | | | |
|-------------------|--------------------------------|----|--|
| CHEM 121 | General Chemistry I | 3 | |
| CHEM 122 | General Chemistry I Laboratory | 1 | |
| ENGL 101 | Freshman English I | 3 | |
| ENGR 110 | Intro to Engineering Practice | 2 | |
| LEAD 101 | Leadership/Maritime Experience | 1 | |
| MATH 101 | Calculus I | 4 | |
| PE 100 | Swimming and Lifetime Fitness | 1 | |
| Semester Credits: | | 15 | |

| | | | |
|-------------------|-----------------------------------|------|--|
| ENGL 103 | Freshman English II for Engineers | 3 | |
| ENGR 100 | Engineering Graphics | 1 | |
| ENGR 120 | Programming for Engineers | 2 | |
| MATH 102 | Calculus II | 4 | |
| PHYS 102 | Engineering Physics I | 4 | |
| PHYS 104 | Engineering Physics I Laboratory | 0.5 | |
| Semester Credits: | | 14.5 | |

Lower Division - Sophomore Year

| | | | |
|-------------------|-----------------------------------|------|--|
| ENGR 242 | Statics | 3 | |
| HUMN 201 | World Literature & Culture I | 3 | |
| MATH 211 | Calculus III | 4 | |
| PHYS 201 | Engineering Physics II | 4 | |
| PHYS 203 | Engineering Physics II Laboratory | 0.5 | |
| Semester Credits: | | 14.5 | |

| | | | |
|-------------------|-------------------------------|----|--|
| CHEM 212 | Materials Science I | 3 | |
| ENGR 290 | Electrical Engineering I | 3 | |
| ENGR 292 | Digital Electronics | 4 | |
| HUMN 202 | World Literature & Culture II | 3 | |
| MATH 212 | Differential Equations | 4 | |
| Semester Credits: | | 17 | |

| | | | |
|-----------------|--------------------------------|---|--|
| ENGR 526 | Industrial Internship I | 3 | |
|-----------------|--------------------------------|---|--|

Upper Division - Junior Year

| | | | |
|-------------------|----------------------------------|----|--|
| ENGR 345 | Engineering Statistical Analysis | 3 | |
| ENGR 383 | Network Analysis | 3 | |
| ENGR 387 | Analog Electronics | 4 | |
| ENGR 394 | Electromagnetic Fields | 3 | |
| HIST 101 | American Civilization I | 3 | |
| Semester Credits: | | 16 | |

| | | | |
|-------------------|--------------------------|----|--|
| ENGR 314 | Engineering Economics | 3 | |
| ENGR 384 | Power Electronics | 3 | |
| ENGR 395 | Electric Machines | 3 | |
| HIST 102 | American Civilization II | 3 | |
| | Engineering Elective | 3 | |
| Semester Credits: | | 15 | |

| | | | |
|-----------------|---------------------------------|---|--|
| ENGR 536 | Industrial Internship II | 3 | |
|-----------------|---------------------------------|---|--|

Upper Division - Senior Year

| | | | |
|-------------------|------------------------------|----|--|
| ENGR 481 | Communications Theory | 3 | |
| ENGR 484 | Electric Drives | 3 | |
| ENGR 488 | Electrical Design I | 4 | |
| | Engineering Elective | 3 | |
| | Free Elective | 3 | |
| Semester Credits: | | 16 | |

| | | | |
|-------------------|-------------------------------------|----|--|
| ENGR 428 | Computerized Control Systems | 3 | |
| ENGR 483 | Control System Theory | 3 | |
| ENGR 489 | Electrical Design II | 4 | |
| ENGR 495 | Marine Electrical Systems | 3 | |
| Semester Credits: | | 13 | |

| | |
|-------------------------|-----|
| Lower Division Credits: | 64 |
| Upper Division Credits: | 63 |
| Total Credits: | 127 |

B.E. in Facilities Engineering with Engine License

Fall Semester

Spring Semester

Lower Division - Freshman Year

| | | | | |
|-------------------|----------|--------------------------------|----|--|
| | CHEM 121 | General Chemistry I | 3 | |
| | CHEM 122 | General Chemistry I Laboratory | 1 | |
| | ENGL 101 | Freshman English I | 3 | |
| | ENGR 110 | Intro to Engineering Practice | 2 | |
| | LEAD 101 | Leadership/Maritime Experience | 1 | |
| | MATH 101 | Calculus I | 4 | |
| L | PS 103 | Water Safety & Survival | 1 | |
| L | PS 112 | STCW Basic Training | 2 | |
| Semester Credits: | | | 17 | |

| | | | | |
|-------------------|-----------------|-------------------------------------|------|--|
| | ENGL 103 | Freshman English II for Engineers | 3 | |
| | ENGR 100 | Engineering Graphics | 1 | |
| | ENGR 120 | Programming for Engineers | 2 | |
| L | ENGR 540 | Introduction to Ship Systems | 3 | |
| | MATH 102 | Calculus II | 4 | |
| | PHYS 102 | Engineering Physics I | 4 | |
| | PHYS 104 | Engineering Physics I Laboratory | 0.5 | |
| Semester Credits: | | | 17.5 | |

| | | | | |
|---|-----------------|--------------------------|---|--|
| L | ENGR 510 | Summer Sea Term I | 6 | |
|---|-----------------|--------------------------|---|--|

Lower Division - Sophomore Year

| | | | | |
|-------------------|-----------------|-----------------------------------|------|--|
| | ENGR 242 | Statics | 3 | |
| L | ENGR 503 | Manufacturing Processes I | 1 | |
| L | ENGR 542 | Ship Systems II | 2 | |
| | HUMN 201 | World Literature & Culture I | 3 | |
| | MATH 211 | Calculus III | 4 | |
| | PHYS 201 | Engineering Physics II | 4 | |
| | PHYS 203 | Engineering Physics II Laboratory | 0.5 | |
| Semester Credits: | | | 17.5 | |

| | | | | |
|-------------------|---------------------|-------------------------------|----|--|
| | CHEM 212 | Materials Science I | 3 | |
| | <i>or</i> *ENGR 347 | Strength of Materials | | |
| | ENGR 244 | Dynamics | 3 | |
| | ENGR 290 | Electrical Engineering I | 3 | |
| L | ENGR 504 | Manufacturing Processes II | 1 | |
| L | ENGR 541 | Ship Systems I | 2 | |
| | HUMN 202 | World Literature & Culture II | 3 | |
| | MATH 212 | Differential Equations | 4 | |
| Semester Credits: | | | 19 | |

| | | | | | | | | | | |
|---|-----------------|---------------------------|---|--|-----------|---|-----------------|-----------------------------------|---|--|
| L | ENGR 520 | Summer Sea Term II | 6 | | <i>OR</i> | L | ENGR 521 | Cadet Comm Vessel Shipping | 6 | |
|---|-----------------|---------------------------|---|--|-----------|---|-----------------|-----------------------------------|---|--|

Upper Division - Junior Year

| | | | | |
|-------------------|-----------------|----------------------------------|----|--|
| | ENGR 341 | Fluid Mechanics | 3 | |
| | ENGR 344 | Thermodynamics | 3 | |
| | ENGR 345 | Engineering Statistical Analysis | 3 | |
| | ENGR 380 | Electrical Engineering II | 3 | |
| L | ENGR 543 | Ship Systems III | 3 | |
| | HIST 101 | American Civilization I | 3 | |
| Semester Credits: | | | 18 | |

| | | | | |
|-------------------|---------------------|-----------------------------|----|--|
| | ENGR 347 | Strength of Materials | 3 | |
| | <i>or</i> *CHEM 212 | Materials Science I | | |
| | ENGR 351 | Heat Transfer | 3 | |
| | ENGR 354 | Marine Engineering Design I | 3 | |
| | ENGR 390 | Electrical Engineering III | 3 | |
| L | ENGR 544 | Ship Systems IV | 4 | |
| | HIST 102 | American Civilization II | 3 | |
| L | NAUT 308 | Nautical Operations: Safety | 2 | |
| Semester Credits: | | | 21 | |

| | | | | |
|---|-----------------|----------------------------|---|--|
| L | ENGR 516 | Engine License Seminar | 0 | |
| L | ENGR 530 | Summer Sea Term III | 5 | |
| L | PS 412 | Medical Care Provider | 1 | |

Upper Division - Senior Year

| | | | | |
|-------------------|-----------------|--|----|--|
| | ENGR 314 | Engineering Economics | 3 | |
| | ENGR 350 | Analog Controls | 3 | |
| L | ENGR 371 | Applied Naval Architecture | 3 | |
| | ENGR 423 | HVAC System Design | 3 | |
| | ENGR 425 | Facilities Engineering Design I | 4 | |
| Semester Credits: | | | 16 | |

| | | | | |
|-------------------|-----------------|---|----|--|
| | ENGR 348 | Strength of Materials Laboratory | 1 | |
| | ENGR 349 | Transport Processes Laboratory | 1 | |
| | ENGR 426 | Facilities Engineering Design II | 4 | |
| | ENGR 444 | Engr Project Management | 3 | |
| | | Free Elective | 3 | |
| | | Free Elective | 3 | |
| Semester Credits: | | | 15 | |

| | |
|-------------------------------------|------------|
| USCG License Exam: | |
| Lower Division Credits: | 83 |
| Upper Division Credits: | 76 |
| License Credits (L in left column): | 42 |
| Total Credits: | 159 |

* Students wishing to transfer to a Mechanical Engineering program at another SUNY campus should take this course.

Courses in **bold type** are typically limited to the semester shown.

B.E. in Facilities Engineering with Internship

Fall Semester

Spring Semester

Lower Division - Freshman Year

| | | | | |
|-------------------|----------|--------------------------------|----|--|
| | CHEM 121 | General Chemistry I | 3 | |
| | CHEM 122 | General Chemistry I Laboratory | 1 | |
| | ENGL 101 | Freshman English I | 3 | |
| | ENGR 110 | Intro to Engineering Practice | 2 | |
| | LEAD 101 | Leadership/Maritime Experience | 1 | |
| | MATH 101 | Calculus I | 4 | |
| | PE 100 | Swimming and Lifetime Fitness | 1 | |
| Semester Credits: | | | 15 | |

| | | | | |
|-------------------|----------|-----------------------------------|------|--|
| | ENGL 103 | Freshman English II for Engineers | 3 | |
| | ENGR 100 | Engineering Graphics | 1 | |
| | ENGR 120 | Programming for Engineers | 2 | |
| | MATH 102 | Calculus II | 4 | |
| | PHYS 102 | Engineering Physics I | 4 | |
| | PHYS 104 | Engineering Physics I Laboratory | 0.5 | |
| Semester Credits: | | | 14.5 | |

Lower Division - Sophomore Year

| | | | | |
|-------------------|----------|-----------------------------------|------|--|
| | ENGR 242 | Statics | 3 | |
| | HUMN 201 | World Literature & Culture I | 3 | |
| | MATH 211 | Calculus III | 4 | |
| | PHYS 201 | Engineering Physics II | 4 | |
| | PHYS 203 | Engineering Physics II Laboratory | 0.5 | |
| Semester Credits: | | | 14.5 | |

| | | | | |
|-------------------|---------------------|-------------------------------|----|--|
| | CHEM 212 | Materials Science I | 3 | |
| | <i>or</i> *ENGR 347 | Strength of Materials | | |
| | ENGR 244 | Dynamics | 3 | |
| | ENGR 290 | Electrical Engineering I | 3 | |
| | HUMN 202 | World Literature & Culture II | 3 | |
| | MATH 212 | Differential Equations | 4 | |
| Semester Credits: | | | 16 | |

| | | | | |
|--|-----------------|--------------------------------|---|--|
| | ENGR 526 | Industrial Internship I | 3 | |
|--|-----------------|--------------------------------|---|--|

Upper Division - Junior Year

| | | | | |
|-------------------|----------|----------------------------------|----|--|
| | ENGR 341 | Fluid Mechanics | 3 | |
| | ENGR 344 | Thermodynamics | 3 | |
| | ENGR 345 | Engineering Statistical Analysis | 3 | |
| | ENGR 380 | Electrical Engineering II | 3 | |
| | HIST 101 | American Civilization I | 3 | |
| Semester Credits: | | | 15 | |

| | | | | |
|-------------------|---------------------|-----------------------------|----|--|
| | ENGR 347 | Strength of Materials | 3 | |
| | <i>or</i> *CHEM 212 | Materials Science I | | |
| | ENGR 351 | Heat Transfer | 3 | |
| | ENGR 354 | Marine Engineering Design I | 3 | |
| | ENGR 390 | Electrical Engineering III | 3 | |
| | HIST 102 | American Civilization II | 3 | |
| Semester Credits: | | | 15 | |

| | | | | |
|--|-----------------|---------------------------------|---|--|
| | ENGR 536 | Industrial Internship II | 3 | |
|--|-----------------|---------------------------------|---|--|

Upper Division - Senior Year

| | | | | |
|-------------------|-----------------|--|----|--|
| | ENGR 314 | Engineering Economics | 3 | |
| | ENGR 350 | Analog Controls | 3 | |
| | ENGR 423 | HVAC System Design | 3 | |
| | ENGR 425 | Facilities Engineering Design I | 4 | |
| | | Engineering Elective | 3 | |
| Semester Credits: | | | 16 | |

| | | | | |
|-------------------|-----------------|---|----|--|
| | ENGR 348 | Strength of Materials Laboratory | 1 | |
| | ENGR 349 | Transport Processes Laboratory | 1 | |
| | ENGR 426 | Facilities Engineering Design II | 4 | |
| | ENGR 444 | Engr Project Management | 3 | |
| | | Engineering Elective | 3 | |
| | | Free Elective | 3 | |
| Semester Credits: | | | 15 | |

| | |
|-------------------------|-----|
| Lower Division Credits: | 63 |
| Upper Division Credits: | 64 |
| Total Credits: | 127 |

* Students wishing to transfer to a Mechanical Engineering program at another SUNY campus should take this course.

Courses in **bold type** are typically limited to the semester shown.

B.E. in Marine Engineering with Engine License

Fall Semester

Spring Semester

Lower Division - Freshman Year

| | | | | |
|-------------------|----------|--------------------------------|----|--|
| | CHEM 121 | General Chemistry I | 3 | |
| | CHEM 122 | General Chemistry I Laboratory | 1 | |
| | ENGL 101 | Freshman English I | 3 | |
| | ENGR 110 | Intro to Engineering Practice | 2 | |
| | LEAD 101 | Leadership/Maritime Experience | 1 | |
| | MATH 101 | Calculus I | 4 | |
| L | PS 103 | Water Safety & Survival | 1 | |
| L | PS 112 | STCW Basic Training | 2 | |
| Semester Credits: | | | 17 | |

| | | | | |
|-------------------|-----------------|-------------------------------------|------|--|
| | ENGL 103 | Freshman English II for Engineers | 3 | |
| | ENGR 100 | Engineering Graphics | 1 | |
| | ENGR 120 | Programming for Engineers | 2 | |
| L | ENGR 540 | Introduction to Ship Systems | 3 | |
| | MATH 102 | Calculus II | 4 | |
| | PHYS 102 | Engineering Physics I | 4 | |
| | PHYS 104 | Engineering Physics I Laboratory | 0.5 | |
| Semester Credits: | | | 17.5 | |

| | | | | |
|---|-----------------|--------------------------|---|--|
| L | ENGR 510 | Summer Sea Term I | 6 | |
|---|-----------------|--------------------------|---|--|

Lower Division - Sophomore Year

| | | | | |
|-------------------|-----------------|-----------------------------------|------|--|
| | ENGR 242 | Statics | 3 | |
| L | ENGR 503 | Manufacturing Processes I | 1 | |
| L | ENGR 542 | Ship Systems II | 2 | |
| | HUMN 201 | World Literature & Culture I | 3 | |
| | MATH 211 | Calculus III | 4 | |
| | PHYS 201 | Engineering Physics II | 4 | |
| | PHYS 203 | Engineering Physics II Laboratory | 0.5 | |
| Semester Credits: | | | 17.5 | |

| | | | | |
|-------------------|---------------------|-------------------------------|----|--|
| | CHEM 212 | Materials Science I | 3 | |
| | <i>or</i> *ENGR 347 | Strength of Materials | | |
| | ENGR 244 | Dynamics | 3 | |
| | ENGR 290 | Electrical Engineering I | 3 | |
| L | ENGR 504 | Manufacturing Processes II | 1 | |
| L | ENGR 541 | Ship Systems I | 2 | |
| | HUMN 202 | World Literature & Culture II | 3 | |
| | MATH 212 | Differential Equations | 4 | |
| Semester Credits: | | | 19 | |

| | | | | | | | | | | |
|---|-----------------|---------------------------|---|--|-----------|---|-----------------|-----------------------------------|---|--|
| L | ENGR 520 | Summer Sea Term II | 6 | | <i>OR</i> | L | ENGR 521 | Cadet Comm Vessel Shipping | 6 | |
|---|-----------------|---------------------------|---|--|-----------|---|-----------------|-----------------------------------|---|--|

Upper Division - Junior Year

| | | | | |
|-------------------|---------------------|-----------------------------|----|--|
| | ENGR 341 | Fluid Mechanics | 3 | |
| | ENGR 344 | Thermodynamics | 3 | |
| | ENGR 347 | Strength of Materials | 3 | |
| | <i>or</i> *CHEM 212 | Materials Science I | | |
| | ENGR 380 | Electrical Engineering II | 3 | |
| L | ENGR 543 | Ship Systems III | 3 | |
| L | NAUT 308 | Nautical Operations: Safety | 2 | |
| Semester Credits: | | | 17 | |

| | | | | |
|-------------------|-----------------|----------------------------------|----|--|
| | ENGR 345 | Engineering Statistical Analysis | 3 | |
| | ENGR 348 | Strength of Materials Laboratory | 1 | |
| | ENGR 351 | Heat Transfer | 3 | |
| | ENGR 354 | Marine Engineering Design I | 3 | |
| | ENGR 390 | Electrical Engineering III | 3 | |
| L | ENGR 544 | Ship Systems IV | 4 | |
| Semester Credits: | | | 17 | |

| | | | | |
|---|-----------------|----------------------------|---|--|
| L | ENGR 516 | Engine License Seminar | 0 | |
| L | ENGR 530 | Summer Sea Term III | 5 | |
| L | PS 412 | Medical Care Provider | 1 | |

Upper Division - Senior Year

| | | | | |
|-------------------|---------------------------|-------------------------------------|----|--|
| | ENGR 314 | Engineering Economics | 3 | |
| L | ENGR 371 | Applied Naval Architecture | 3 | |
| | ENGR 423 | HVAC System Design | 3 | |
| | <i>or</i> ENGR 454 | Vibrations | | |
| | ENGR 440 | Marine Engineering Design II | 3 | |
| | ENGR 453 | Modern Concepts | 3 | |
| | HIST 101 | American Civilization I | 3 | |
| Semester Credits: | | | 18 | |

| | | | | |
|-------------------|-----------------|---------------------------------------|----|--|
| | ENGR 349 | Transport Processes Laboratory | 1 | |
| | ENGR 350 | Analog Controls | 3 | |
| | ENGR 444 | Engr Project Management | 3 | |
| | ENGR 450 | Marine Engineering Design III | 4 | |
| | ENGR 495 | Marine Electrical Systems | 3 | |
| | HIST 102 | American Civilization II | 3 | |
| Semester Credits: | | | 17 | |

| | |
|-------------------------------------|------------|
| USCG License Exam: | |
| Lower Division Credits: | 83 |
| Upper Division Credits: | 75 |
| License Credits (L in left column): | 42 |
| Total Credits: | 158 |

* Students wishing to transfer to a Mechanical Engineering program at another SUNY campus should take this course.

Courses in **bold type** are typically limited to the semester shown.

B.E. in Mechanical Engineering with Engine License

Fall Semester

Spring Semester

Lower Division - Freshman Year

| | | | | |
|-------------------|----------|--------------------------------|----|--|
| | CHEM 121 | General Chemistry I | 3 | |
| | CHEM 122 | General Chemistry I Laboratory | 1 | |
| | ENGL 101 | Freshman English I | 3 | |
| | ENGR 110 | Intro to Engineering Practice | 2 | |
| | LEAD 101 | Leadership/Maritime Experience | 1 | |
| | MATH 101 | Calculus I | 4 | |
| L | PS 103 | Water Safety & Survival | 1 | |
| L | PS 112 | STCW Basic Training | 2 | |
| Semester Credits: | | | 17 | |

| | | | | |
|-------------------|-----------------|-------------------------------------|------|--|
| | ENGL 103 | Freshman English II for Engineers | 3 | |
| | ENGR 100 | Engineering Graphics | 1 | |
| | ENGR 120 | Programming for Engineers | 2 | |
| L | ENGR 540 | Introduction to Ship Systems | 3 | |
| | MATH 102 | Calculus II | 4 | |
| | PHYS 102 | Engineering Physics I | 4 | |
| | PHYS 104 | Engineering Physics I Laboratory | 0.5 | |
| Semester Credits: | | | 17.5 | |

| | | | | |
|---|-----------------|--------------------------|---|--|
| L | ENGR 510 | Summer Sea Term I | 6 | |
|---|-----------------|--------------------------|---|--|

Lower Division - Sophomore Year

| | | | | |
|-------------------|-----------------|-----------------------------------|------|--|
| | ENGR 242 | Statics | 3 | |
| L | ENGR 503 | Manufacturing Processes I | 1 | |
| L | ENGR 542 | Ship Systems II | 2 | |
| | HUMN 201 | World Literature & Culture I | 3 | |
| | MATH 211 | Calculus III | 4 | |
| | PHYS 201 | Engineering Physics II | 4 | |
| | PHYS 203 | Engineering Physics II Laboratory | 0.5 | |
| Semester Credits: | | | 17.5 | |

| | | | | |
|-------------------|---------------------|-------------------------------|----|--|
| | CHEM 212 | Materials Science I | 3 | |
| | <i>or</i> *ENGR 347 | Strength of Materials | | |
| | ENGR 244 | Dynamics | 3 | |
| | ENGR 290 | Electrical Engineering I | 3 | |
| L | ENGR 504 | Manufacturing Processes II | 1 | |
| L | ENGR 541 | Ship Systems I | 2 | |
| | HUMN 202 | World Literature & Culture II | 3 | |
| | MATH 212 | Differential Equations | 4 | |
| Semester Credits: | | | 19 | |

| | | | | | | | | | | |
|---|-----------------|---------------------------|---|--|-----------|---|-----------------|-----------------------------------|---|--|
| L | ENGR 520 | Summer Sea Term II | 6 | | <i>OR</i> | L | ENGR 521 | Cadet Comm Vessel Shipping | 6 | |
|---|-----------------|---------------------------|---|--|-----------|---|-----------------|-----------------------------------|---|--|

Upper Division - Junior Year

| | | | | |
|-------------------|---------------------|-----------------------------|----|--|
| | ENGR 344 | Thermodynamics | 3 | |
| | ENGR 347 | Strength of Materials | 3 | |
| | <i>or</i> *CHEM 212 | Materials Science I | | |
| | ENGR 380 | Electrical Engineering II | 3 | |
| L | ENGR 543 | Ship Systems III | 3 | |
| | HIST 101 | American Civilization I | 3 | |
| L | NAUT 308 | Nautical Operations: Safety | 2 | |
| Semester Credits: | | | 17 | |

| | | | | |
|-------------------|-----------------|----------------------------------|----|--|
| | ENGR 312 | Machine Design | 3 | |
| | ENGR 341 | Fluid Mechanics | 3 | |
| | ENGR 345 | Engineering Statistical Analysis | 3 | |
| | ENGR 351 | Heat Transfer | 3 | |
| | ENGR 390 | Electrical Engineering III | 3 | |
| L | ENGR 544 | Ship Systems IV | 4 | |
| Semester Credits: | | | 19 | |

| | | | | |
|---|-----------------|----------------------------|---|--|
| L | ENGR 516 | Engine License Seminar | 0 | |
| L | ENGR 530 | Summer Sea Term III | 5 | |
| L | PS 412 | Medical Care Provider | 1 | |

Upper Division - Senior Year

| | | | | |
|-------------------|-----------------|----------------------------------|----|--|
| | ENGR 348 | Strength of Materials Laboratory | 1 | |
| | ENGR 354 | Marine Engineering Design I | 3 | |
| L | ENGR 371 | Applied Naval Architecture | 3 | |
| | ENGR 418 | Mechanical Engr Design I | 4 | |
| | ENGR 454 | Vibrations | 3 | |
| | | Engineering Elective | 3 | |
| Semester Credits: | | | 17 | |

| | | | | |
|-------------------|-----------------|---------------------------------------|----|--|
| | ENGR 314 | Engineering Economics | 3 | |
| | ENGR 349 | Transport Processes Laboratory | 1 | |
| | ENGR 419 | Mechanical Engr Design II | 4 | |
| | HIST 102 | American Civilization II | 3 | |
| | | Engineering Elective | 3 | |
| | | Free Elective | 3 | |
| Semester Credits: | | | 17 | |

| | |
|-------------------------------------|-----|
| USCG License Exam: | |
| Lower Division Credits: | 83 |
| Upper Division Credits: | 76 |
| License Credits (L in left column): | 42 |
| Total Credits: | 159 |

* Students wishing to transfer to a Mechanical Engineering program at another SUNY campus should take this course.

Courses in **bold type** are typically limited to the semester shown.

B.E. in Mechanical Engineering with Internship

Fall Semester

Spring Semester

Lower Division - Freshman Year

| | | | | |
|-------------------|----------|--------------------------------|----|--|
| | CHEM 121 | General Chemistry I | 3 | |
| | CHEM 122 | General Chemistry I Laboratory | 1 | |
| | ENGL 101 | Freshman English I | 3 | |
| | ENGR 110 | Intro to Engineering Practice | 2 | |
| | LEAD 101 | Leadership/Maritime Experience | 1 | |
| | MATH 101 | Calculus I | 4 | |
| | PE 100 | Swimming and Lifetime Fitness | 1 | |
| Semester Credits: | | | 15 | |

| | | | | |
|-------------------|----------|-----------------------------------|------|--|
| | ENGL 103 | Freshman English II for Engineers | 3 | |
| | ENGR 100 | Engineering Graphics | 1 | |
| | ENGR 120 | Programming for Engineers | 2 | |
| | MATH 102 | Calculus II | 4 | |
| | PHYS 102 | Engineering Physics I | 4 | |
| | PHYS 104 | Engineering Physics I Laboratory | 0.5 | |
| Semester Credits: | | | 14.5 | |

Lower Division - Sophomore Year

| | | | | |
|-------------------|----------|-----------------------------------|------|--|
| | ENGR 242 | Statics | 3 | |
| | ENGR 503 | Manufacturing Processes I | 1 | |
| | HUMN 201 | World Literature & Culture I | 3 | |
| | MATH 211 | Calculus III | 4 | |
| | PHYS 201 | Engineering Physics II | 4 | |
| | PHYS 203 | Engineering Physics II Laboratory | 0.5 | |
| Semester Credits: | | | 15.5 | |

| | | | | |
|-------------------|---------------------|-------------------------------|----|--|
| | CHEM 212 | Materials Science I | 3 | |
| | <i>or</i> *ENGR 347 | Strength of Materials | | |
| | ENGR 244 | Dynamics | 3 | |
| | ENGR 290 | Electrical Engineering I | 3 | |
| | HUMN 202 | World Literature & Culture II | 3 | |
| | MATH 212 | Differential Equations | 4 | |
| Semester Credits: | | | 16 | |

| | | | | |
|--|-----------------|--------------------------------|---|--|
| | ENGR 526 | Industrial Internship I | 3 | |
|--|-----------------|--------------------------------|---|--|

Upper Division - Junior Year

| | | | | |
|-------------------|---------------------|---------------------------|----|--|
| | ENGR 314 | Engineering Economics | 3 | |
| | ENGR 344 | Thermodynamics | 3 | |
| | ENGR 347 | Strength of Materials | 3 | |
| | <i>or</i> *CHEM 212 | Materials Science I | | |
| | ENGR 380 | Electrical Engineering II | 3 | |
| | HIST 101 | American Civilization I | 3 | |
| Semester Credits: | | | 15 | |

| | | | | |
|-------------------|-----------------|----------------------------------|----|--|
| | ENGR 312 | Machine Design | 3 | |
| | ENGR 341 | Fluid Mechanics | 3 | |
| | ENGR 345 | Engineering Statistical Analysis | 3 | |
| | ENGR 351 | Heat Transfer | 3 | |
| | ENGR 390 | Electrical Engineering III | 3 | |
| Semester Credits: | | | 15 | |

| | | | | |
|--|-----------------|---------------------------------|---|--|
| | ENGR 536 | Industrial Internship II | 3 | |
|--|-----------------|---------------------------------|---|--|

Upper Division - Senior Year

| | | | | |
|-------------------|-----------------|---------------------------------|----|--|
| | ENGR 354 | Marine Engineering Design I | 3 | |
| | ENGR 418 | Mechanical Engr Design I | 4 | |
| | ENGR 454 | Vibrations | 3 | |
| | | Engineering Elective | 3 | |
| | | Engineering Elective | 3 | |
| Semester Credits: | | | 16 | |

| | | | | |
|-------------------|-----------------|---------------------------------------|----|--|
| | ENGR 348 | Strength of Materials Laboratory | 1 | |
| | ENGR 349 | Transport Processes Laboratory | 1 | |
| | ENGR 419 | Mechanical Engr Design II | 4 | |
| | HIST 102 | American Civilization II | 3 | |
| | | Engineering Elective | 3 | |
| | | Free Elective | 3 | |
| Semester Credits: | | | 15 | |

| | |
|-------------------------|-----|
| Lower Division Credits: | 64 |
| Upper Division Credits: | 64 |
| Total Credits: | 128 |

* Students wishing to transfer to a Mechanical Engineering program at another SUNY campus should take this course.

Courses in **bold type** are typically limited to the semester shown.

B.E. in Naval Architecture with Deck License

Fall Semester

Spring Semester

Lower Division - Freshman Year

| | | | | |
|-------------------|----------|--------------------------------|----|--|
| | CHEM 121 | General Chemistry I | 3 | |
| | CHEM 122 | General Chemistry I Laboratory | 1 | |
| | ENGL 101 | Freshman English I | 3 | |
| | ENGR 110 | Intro to Engineering Practice | 2 | |
| | LEAD 101 | Leadership/Maritime Experience | 1 | |
| | MATH 101 | Calculus I | 4 | |
| L | PS 103 | Water Safety & Survival | 1 | |
| L | PS 112 | STCW Basic Training | 2 | |
| Semester Credits: | | | 17 | |

| | | | | |
|-------------------|----------|-----------------------------------|------|--|
| | ENGL 103 | Freshman English II for Engineers | 3 | |
| | ENGR 100 | Engineering Graphics | 1 | |
| | ENGR 120 | Programming for Engineers | 2 | |
| | MATH 102 | Calculus II | 4 | |
| | PHYS 102 | Engineering Physics I | 4 | |
| | PHYS 104 | Engineering Physics I Laboratory | 0.5 | |
| L | NAUT 102 | Intro to Vessel Ops & Smnship | 1 | |
| L | NAVG 112 | Terrestrial Navigation | 4 | |
| Semester Credits: | | | 19.5 | |

| | | | | |
|---|---------------|--------------------------|---|--|
| L | MT 510 | Summer Sea Term I | 6 | |
|---|---------------|--------------------------|---|--|

Lower Division - Sophomore Year

| | | | | |
|-------------------|----------|-----------------------------------|------|--|
| | ENGR 242 | Statics | 3 | |
| | HUMN 201 | World Literature & Culture I | 3 | |
| | MATH 211 | Calculus III | 4 | |
| L | METE 201 | Meteorology for Mariners | 3 | |
| | PHYS 201 | Engineering Physics II | 4 | |
| | PHYS 203 | Engineering Physics II Laboratory | 0.5 | |
| Semester Credits: | | | 17.5 | |

| | | | | |
|-------------------|---------------------|-------------------------------|----|--|
| | CHEM 212 | Materials Science I | 3 | |
| | <i>or</i> *ENGR 347 | Strength of Materials | | |
| | ENGR 244 | Dynamics | 3 | |
| | ENGR 290 | Electrical Engineering I | 3 | |
| | HUMN 202 | World Literature & Culture II | 3 | |
| | MATH 212 | Differential Equations | 4 | |
| L | NAVG 212 | Celestial Navigation | 4 | |
| Semester Credits: | | | 20 | |

| | | | | |
|---|---------------|---------------------------|---|--|
| L | MT 520 | Summer Sea Term II | 6 | |
|---|---------------|---------------------------|---|--|

| | | | | |
|-------------|---------------|-----------------------------------|---|--|
| <i>OR</i> L | MT 521 | Cadet Comm Vessel Shipping | 6 | |
|-------------|---------------|-----------------------------------|---|--|

Upper Division - Junior Year

| | | | | |
|-------------------|---------------------|-------------------------------|----|--|
| | ENGR 314 | Engineering Economics | 3 | |
| | ENGR 347 | Strength of Materials | 3 | |
| | <i>or</i> *CHEM 212 | Materials Science I | | |
| L | ENGR 363 | Ship Statics | 3 | |
| | ENGR 365 | Ship Form and Graphics | 3 | |
| | ENGR 380 | Electrical Engineering II | 3 | |
| L | NAUT 314 | Rules of the Road | 2 | |
| L | NAUT 315 | Collision Avoidance | 3 | |
| Semester Credits: | | | 20 | |

| | | | | |
|-------------------|-----------------|------------------------------|----|--|
| | ENGR 341 | Fluid Mechanics | 3 | |
| | ENGR 344 | Thermodynamics | 3 | |
| | ENGR 366 | Ship Structure | 4 | |
| | ENGR 368 | Ship Design I | 4 | |
| L | NAUT 308 | Nautical Operations: Safety | 2 | |
| L | NAVG 312 | Electr Nav & Voyage Planning | 4 | |
| Semester Credits: | | | 20 | |

| | | | | |
|---|---------------|----------------------------|---|--|
| L | MT 530 | Summer Sea Term III | 5 | |
| L | PS 412 | Medical Care Provider | 1 | |

* Students wishing to transfer to a Mechanical Engineering program at another SUNY campus should take this course.

Upper Division - Senior Year

| | | | | |
|-------------------|-----------------|---------------------------------------|----|--|
| | ENGR 345 | Engineering Statistical Analysis | 3 | |
| | ENGR 461 | Ship Design II | 4 | |
| | ENGR 462 | Ship Resistance and Propulsion | 3 | |
| | HIST 101 | American Civilization I | 3 | |
| L | MT 321 | Intro to Cargo Ops & Stability | 3 | |
| Semester Credits: | | | 16 | |

| | | | | |
|-------------------|-----------------|----------------------------------|----|--|
| | ENGR 348 | Strength of Materials Laboratory | 1 | |
| | ENGR 354 | Marine Engineering Design I | 3 | |
| | ENGR 471 | Ship Design III | 4 | |
| | ENGR 473 | Ship Dynamics | 3 | |
| L | MT 322 | Marine Cargo Operations | 3 | |
| | | Engineering Elective | 3 | |
| Semester Credits: | | | 17 | |

9th Semester

| | | | | |
|-------------------|----------|----------------------------------|----|--|
| | HIST 102 | American Civilization II | 3 | |
| L | MT 412 | Deck License Seminar | 4 | |
| L | MT 426 | Maritime Communications | 3 | |
| L | NAUT 416 | Bridge Resource Mgmt (Unltd Lic) | 3 | |
| | | Free Elective | 3 | |
| Semester Credits: | | | 16 | |

USCG License Exam:

Lower Division Credits:
 Upper Division Credits:
 License Credits (L in left column):
 Total Credits:

Note: Though not required for your license, students who plan to sail are strongly advised to take MT 435 (Maritime Security) in addition to the courses above.

Courses in **bold type** are typically limited to the semester shown.

B.E. in Naval Architecture with Engine License

Fall Semester

Spring Semester

Lower Division - Freshman Year

| | | | | |
|-------------------|----------|--------------------------------|----|--|
| | CHEM 121 | General Chemistry I | 3 | |
| | CHEM 122 | General Chemistry I Laboratory | 1 | |
| | ENGL 101 | Freshman English I | 3 | |
| | ENGR 110 | Intro to Engineering Practice | 2 | |
| | LEAD 101 | Leadership/Maritime Experience | 1 | |
| | MATH 101 | Calculus I | 4 | |
| L | PS 103 | Water Safety & Survival | 1 | |
| L | PS 112 | STCW Basic Training | 2 | |
| Semester Credits: | | | 17 | |

| | | | | |
|-------------------|-----------------|-------------------------------------|------|--|
| | ENGL 103 | Freshman English II for Engineers | 3 | |
| | ENGR 100 | Engineering Graphics | 1 | |
| | ENGR 120 | Programming for Engineers | 2 | |
| L | ENGR 540 | Introduction to Ship Systems | 3 | |
| | MATH 102 | Calculus II | 4 | |
| | PHYS 102 | Engineering Physics I | 4 | |
| | PHYS 104 | Engineering Physics I Laboratory | 0.5 | |
| Semester Credits: | | | 17.5 | |

| | | | | |
|---|-----------------|--------------------------|---|--|
| L | ENGR 510 | Summer Sea Term I | 6 | |
|---|-----------------|--------------------------|---|--|

Lower Division - Sophomore Year

| | | | | |
|-------------------|-----------------|-----------------------------------|------|--|
| | ENGR 242 | Statics | 3 | |
| L | ENGR 503 | Manufacturing Processes I | 1 | |
| L | ENGR 542 | Ship Systems II | 2 | |
| | HUMN 201 | World Literature & Culture I | 3 | |
| | MATH 211 | Calculus III | 4 | |
| | PHYS 201 | Engineering Physics II | 4 | |
| | PHYS 203 | Engineering Physics II Laboratory | 0.5 | |
| Semester Credits: | | | 17.5 | |

| | | | | |
|-------------------|---------------------|-------------------------------|----|--|
| | CHEM 212 | Materials Science I | 3 | |
| | <i>or</i> *ENGR 347 | Strength of Materials | | |
| | ENGR 244 | Dynamics | 3 | |
| | ENGR 290 | Electrical Engineering I | 3 | |
| L | ENGR 504 | Manufacturing Processes II | 1 | |
| L | ENGR 541 | Ship Systems I | 2 | |
| | HUMN 202 | World Literature & Culture II | 3 | |
| | MATH 212 | Differential Equations | 4 | |
| Semester Credits: | | | 19 | |

| | | | | | | | | | | |
|---|-----------------|---------------------------|---|--|-----------|---|-----------------|-----------------------------------|---|--|
| L | ENGR 520 | Summer Sea Term II | 6 | | <i>OR</i> | L | ENGR 521 | Cadet Comm Vessel Shipping | 6 | |
|---|-----------------|---------------------------|---|--|-----------|---|-----------------|-----------------------------------|---|--|

Upper Division - Junior Year

| | | | | |
|-------------------|---------------------|-------------------------------|----|--|
| | ENGR 314 | Engineering Economics | 3 | |
| | ENGR 347 | Strength of Materials | 3 | |
| | <i>or</i> *CHEM 212 | Materials Science I | | |
| L | ENGR 363 | Ship Statics | 3 | |
| | ENGR 365 | Ship Form and Graphics | 3 | |
| | ENGR 380 | Electrical Engineering II | 3 | |
| L | ENGR 543 | Ship Systems III | 3 | |
| Semester Credits: | | | 18 | |

| | | | | |
|-------------------|-----------------|-----------------------------|----|--|
| | ENGR 341 | Fluid Mechanics | 3 | |
| | ENGR 344 | Thermodynamics | 3 | |
| | ENGR 366 | Ship Structure | 4 | |
| | ENGR 368 | Ship Design I | 4 | |
| L | ENGR 544 | Ship Systems IV | 4 | |
| L | NAUT 308 | Nautical Operations: Safety | 2 | |
| Semester Credits: | | | 20 | |

| | | | | |
|---|-----------------|----------------------------|---|--|
| L | ENGR 516 | Engine License Seminar | 0 | |
| L | ENGR 530 | Summer Sea Term III | 5 | |
| L | PS 412 | Medical Care Provider | 1 | |

Upper Division - Senior Year

| | | | | |
|-------------------|-----------------|---------------------------------------|----|--|
| | ENGR 345 | Engineering Statistical Analysis | 3 | |
| | ENGR 390 | Electrical Engineering III | 3 | |
| | ENGR 461 | Ship Design II | 4 | |
| | ENGR 462 | Ship Resistance and Propulsion | 3 | |
| | HIST 101 | American Civilization I | 3 | |
| Semester Credits: | | | 16 | |

| | | | | |
|-------------------|-----------------|----------------------------------|----|--|
| | ENGR 348 | Strength of Materials Laboratory | 1 | |
| | ENGR 354 | Marine Engineering Design I | 3 | |
| | ENGR 471 | Ship Design III | 4 | |
| | ENGR 473 | Ship Dynamics | 3 | |
| | HIST 102 | American Civilization II | 3 | |
| | | Engineering Elective | 3 | |
| Semester Credits: | | | 17 | |

| | |
|-------------------------------------|-----|
| USCG License Exam: | |
| Lower Division Credits: | 83 |
| Upper Division Credits: | 77 |
| License Credits (L in left column): | 42 |
| Total Credits: | 160 |

* Students wishing to transfer to a Mechanical Engineering program at another SUNY campus should take this course.

Courses in **bold type** are typically limited to the semester shown.

B.E. in Naval Architecture with Internship

Fall Semester

Spring Semester

Lower Division - Freshman Year

| | | | | |
|-------------------|----------|--------------------------------|----|--|
| | CHEM 121 | General Chemistry I | 3 | |
| | CHEM 122 | General Chemistry I Laboratory | 1 | |
| | ENGL 101 | Freshman English I | 3 | |
| | ENGR 110 | Intro to Engineering Practice | 2 | |
| | LEAD 101 | Leadership/Maritime Experience | 1 | |
| | MATH 101 | Calculus I | 4 | |
| | PE 100 | Swimming and Lifetime Fitness | 1 | |
| Semester Credits: | | | 15 | |

| | | | | |
|-------------------|----------|-----------------------------------|------|--|
| | ENGL 103 | Freshman English II for Engineers | 3 | |
| | ENGR 100 | Engineering Graphics | 1 | |
| | ENGR 120 | Programming for Engineers | 2 | |
| | MATH 102 | Calculus II | 4 | |
| | PHYS 102 | Engineering Physics I | 4 | |
| | PHYS 104 | Engineering Physics I Laboratory | 0.5 | |
| Semester Credits: | | | 14.5 | |

Lower Division - Sophomore Year

| | | | | |
|-------------------|----------|-----------------------------------|------|--|
| | ENGR 242 | Statics | 3 | |
| | HUMN 201 | World Literature & Culture I | 3 | |
| | MATH 211 | Calculus III | 4 | |
| | PHYS 201 | Engineering Physics II | 4 | |
| | PHYS 203 | Engineering Physics II Laboratory | 0.5 | |
| Semester Credits: | | | 14.5 | |

| | | | | |
|-------------------|---------------------|-------------------------------|----|--|
| | CHEM 212 | Materials Science I | 3 | |
| | <i>or</i> *ENGR 347 | Strength of Materials | | |
| | ENGR 244 | Dynamics | 3 | |
| | ENGR 290 | Electrical Engineering I | 3 | |
| | HUMN 202 | World Literature & Culture II | 3 | |
| | MATH 212 | Differential Equations | 4 | |
| Semester Credits: | | | 16 | |

| | | | | |
|--|-----------------|--------------------------------|---|--|
| | ENGR 526 | Industrial Internship I | 3 | |
|--|-----------------|--------------------------------|---|--|

Upper Division - Junior Year

| | | | | |
|-------------------|---------------------|-------------------------------|----|--|
| | ENGR 314 | Engineering Economics | 3 | |
| | ENGR 347 | Strength of Materials | 3 | |
| | <i>or</i> *CHEM 212 | Materials Science I | | |
| | ENGR 363 | Ship Statics | 3 | |
| | ENGR 365 | Ship Form and Graphics | 3 | |
| | ENGR 380 | Electrical Engineering II | 3 | |
| Semester Credits: | | | 15 | |

| | | | | |
|-------------------|-----------------|----------------------------------|----|--|
| | ENGR 341 | Fluid Mechanics | 3 | |
| | ENGR 344 | Thermodynamics | 3 | |
| | ENGR 348 | Strength of Materials Laboratory | 1 | |
| | ENGR 366 | Ship Structure | 4 | |
| | ENGR 368 | Ship Design I | 4 | |
| Semester Credits: | | | 15 | |

| | | | | |
|--|-----------------|---------------------------------|---|--|
| | ENGR 536 | Industrial Internship II | 3 | |
|--|-----------------|---------------------------------|---|--|

Upper Division - Senior Year

| | | | | |
|-------------------|-----------------|---|----|--|
| | ENGR 345 | Engineering Statistical Analysis | 3 | |
| | ENGR 461 | Ship Design II | 4 | |
| | ENGR 462 | Ship Resistance and Propulsion | 3 | |
| | ENGR 472 | Sailboat Principles & Design | 3 | |
| | HIST 101 | American Civilization I | 3 | |
| Semester Credits: | | | 16 | |

| | | | | |
|-------------------|-----------------|---|----|--|
| | ENGR 354 | Marine Engineering Design I | 3 | |
| | ENGR 471 | Ship Design III | 4 | |
| | ENGR 473 | Ship Dynamics | 3 | |
| | ENGR 476 | Power Boat Principles & Design | 3 | |
| | HIST 102 | American Civilization II | 3 | |
| Semester Credits: | | | 16 | |

| | |
|-------------------------|-----|
| Lower Division Credits: | 63 |
| Upper Division Credits: | 65 |
| Total Credits: | 128 |

* Students wishing to transfer to a Mechanical Engineering program at another SUNY campus should take this course.

Courses in **bold type** are typically limited to the semester shown.

B.S. in International Transportation and Trade with Internship

Fall Semester

Spring Semester

Lower Division - Freshman Year

| | | | |
|-------------------|--------------------------------|----|--|
| 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 | | |
| | GenEd: Natural Science | 3 | |
| Semester Credits: | | 15 | |

| | | | |
|-------------------|---------------------------|----|--|
| ENGL 102 | Freshman English II | 3 | |
| GBEC 121 | Macroeconomics | 3 | |
| GBMG 345 | Fundamentals of Marketing | 3 | |
| HIST 101 | American Civilization I | 3 | |
| MATH 251 | Statistics | 3 | |
| | | | |
| | | | |
| Semester Credits: | | 15 | |

Lower Division - Sophomore Year

| | | | |
|-------------------|------------------------------|----|--|
| ENGL 452 | Technical Writing | 3 | |
| GBAC 311 | Financial Accounting | 3 | |
| GBEC 122 | Microeconomics | 3 | |
| HIST 102 | American Civilization II | 3 | |
| HUMN 201 | World Literature & Culture I | 3 | |
| Semester Credits: | | 15 | |

| | | | |
|-------------------|-------------------------------|----|--|
| GBAC 315 | Managerial Accounting | 3 | |
| GBLW 431 | Business Law | 3 | |
| HUMN 202 | World Literature & Culture II | 3 | |
| | Free Elective | 3 | |
| | LAS Elective | 3 | |
| Semester Credits: | | 15 | |

Upper Division - Junior Year

| | | | |
|-------------------|-----------------------------|----|--|
| GBEC 424 | Intl. Economics and Finance | 3 | |
| GBLW 433 | Admiralty Law | 3 | |
| GBMG 341 | Organizational Management | 3 | |
| GBTT 251 | Transportation Systems | 3 | |
| | LAS Elective | 3 | |
| Semester Credits: | | 15 | |

| | | | |
|-------------------|--------------------------------|----|--|
| GBEC 427 | Financial Management | 3 | |
| GBEC 428 | Economic Geography | 3 | |
| GBTT 252 | Business of Shipping | 3 | |
| | International Studies Elective | 3 | |
| | LAS Elective | 3 | |
| Semester Credits: | | 15 | |

| | | | | | | | |
|----------|----------------------------|---|----|----------|------------------|---|--|
| GBUS 525 | ITT Internship / Work Exp. | 6 | OR | GBUS 526 | ITT Study Abroad | 6 | |
|----------|----------------------------|---|----|----------|------------------|---|--|

Upper Division - Senior Year

| | | | |
|-------------------|--------------------------------|----|--|
| GBLW 435 | Environmental Law & Policy | 3 | |
| GBTT 451 | Marine Insurance | 3 | |
| GBTT 453 | Import/Export & Traffic Mgt. | 3 | |
| GBTT 457 | Port and Terminal Operations | 3 | |
| | International Studies Elective | 3 | |
| Semester Credits: | | 15 | |

| | | | |
|-------------------|-------------------------------|----|--|
| GBEC 429 | Seminar: Transport. Economics | 3 | |
| or GBMG 440 | Seminar: Strategy and Policy | | |
| GBTT 351 | International Logistics | 3 | |
| GBUS 300 | International Business | 3 | |
| MATH 446 | Operations Research | 3 | |
| | Phys Ed Elective | 1 | |
| Semester Credits: | | 13 | |

| | |
|-------------------------|-----|
| Lower Division Credits: | 60 |
| Upper Division Credits: | 64 |
| Total Credits: | 124 |

International Studies Elective

At least one of these two electives must be chosen from the left column.

- ENGL 416 Literature of the Sea
- ENGL 418 Contemporary Literature
- ENGL 470 Major British Authors
- 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
- HIST 426 Twentieth Century Technology
- NVSC 102 Sea Power and Maritime Affairs
- NVSC 311 Evolution of Warfare
- Foreign language courses

- GBLW 437 International Law
- GBMG 442 Intl Marketing Management
- GBMG 443 Cross-Cultural Management
- GBTT 460 Prin. of Global Supply Chain Security
- GBUS 526 ITT Study Abroad*
- MT 408 International Safety Management
- MT 435 Maritime Security
- * Other study abroad courses to be evaluated by Dept Chair

B.S. in Marine Environmental Science with Deck License, Marine Biology Minor

Fall Semester

Spring Semester

Lower Division - Freshman Year

| | | | | |
|-------------------|----------------|--------------------------------|----|--|
| | BIO 201 | General Biology I | 4 | |
| | CS 101 | Computer Laboratory | 1 | |
| | ENGL 101 | Freshman English I | 3 | |
| | ES 101 | Intro to Environmental Science | 3 | |
| | LEAD 101 | Leadership/Maritime Experience | 1 | |
| | MATH 111 | Applied Calc I (or MATH 101) | 4 | |
| L | PS 112 | STCW Basic Training | 2 | |
| Semester Credits: | | | 18 | |

| | | | | |
|-------------------|-----------------|--------------------------------------|----|--|
| | BIO 202 | General Biology II | 4 | |
| | ENGL 102 | Freshman English II | 3 | |
| | MATH 112 | Applied Calc II (or MATH 102) | 3 | |
| L | NAUT 102 | IntroVesselOps & Seamanship | 1 | |
| L | NAVG 112 | Terrestrial Navigation | 4 | |
| | OCEA 101 | General Oceanography | 3 | |
| | OCEA 102 | General Oceanography Lab | 1 | |
| L | PS 103 | Water Safety & Survival | 1 | |
| Semester Credits: | | | 20 | |

| | | | | |
|---|---------------|--------------------------|----------|--|
| L | MT 510 | Summer Sea Term I | 6 | |
|---|---------------|--------------------------|----------|--|

Lower Division - Sophomore Year

| | | | | |
|-------------------|----------|--------------------------------|------|--|
| | CHEM 121 | General Chemistry I | 3 | |
| | CHEM 122 | General Chemistry I Laboratory | 1 | |
| | HIST 101 | American Civilization I | 3 | |
| | HUMN 201 | World Literature & Culture I | 3 | |
| L | METE 201 | Meteorology for Mariners | 3 | |
| L | MT 250 | Ship Construction & Stability | 2 | |
| | PHYS 211 | General Physics I | 3 | |
| | PHYS 213 | General Physics I Lab | 0.5 | |
| Semester Credits: | | | 18.5 | |

| | | | | |
|-------------------|-----------------|--|------|--|
| | CHEM 123 | General Chemistry II | 3 | |
| | CHEM 124 | General Chemistry II Laboratory | 1 | |
| | HIST 102 | American Civilization II | 3 | |
| | HUMN 202 | World Literature & Culture II | 3 | |
| L | NAVG 212 | Celestial Navigation | 4 | |
| | PHYS 214 | General Physics II | 4 | |
| | PHYS 216 | General Physics II Lab | 0.5 | |
| Semester Credits: | | | 18.5 | |

| | | | | | | | | | |
|---|---------------|---------------------------|---|----|---|---------------|-----------------------------------|---|--|
| L | MT 520 | Summer Sea Term II | 6 | OR | L | MT 521 | Cadet Comm Vessel Shipping | 6 | |
|---|---------------|---------------------------|---|----|---|---------------|-----------------------------------|---|--|

Upper Division - Junior Year

| | | | | |
|-------------------|-----------------|--------------------------------|----|--|
| | BIO 210 | Ecology | 3 | |
| (2) | BIO 315 | Marine Biology | 3 | |
| (2) | CHEM 220 | Environmental Chemistry | 3 | |
| | MATH 251 | Statistics | 3 | |
| L | MT 321 | Intro to Cargo Ops & Stability | 3 | |
| L | NAUT 314 | Rules of the Road | 2 | |
| L | NAUT 315 | Collision Avoidance | 3 | |
| Semester Credits: | | | 20 | |

| | | | | |
|-------------------|-----------------|-------------------------------------|----|--|
| (1) | BIO 415 | Ichthyology | 3 | |
| | CHEM 221 | Organic Chemistry | 3 | |
| | CHEM 222 | Organic Chemistry Laboratory | 1 | |
| L | MT 322 | Marine Cargo Operations | 3 | |
| L | NAUT 308 | Nautical Operations: Safety | 2 | |
| L | NAVG 312 | Electr Nav & Voyage Planning | 4 | |
| | | MES Elective | 3 | |
| Semester Credits: | | | 19 | |

| | | | | |
|---|---------------|----------------------------|---|--|
| L | MT 530 | Summer Sea Term III | 5 | |
| L | PS 412 | Medical Care Provider | 1 | |

Upper Division - Senior Year

| | | | | |
|-------------------|-----------------|--|----|--|
| (1) | BIO 320 | Invertebrate Zoology | 4 | |
| | ES 451 | Field Methods in Environ. Science | 4 | |
| (1) | GEOL 301 | General Geology | 3 | |
| L | MT 412 | Deck License Seminar | 4 | |
| L | MT 426 | Maritime Communications | 3 | |
| Semester Credits: | | | 18 | |

| | | | | |
|-------------------|-----------------|--|----|--|
| (2) | BIO 416 | Fisheries Science | 3 | |
| | ES 420 | Environmental Pollution | 3 | |
| | GBLW 435 | Environmental Law & Policy | 3 | |
| L | NAUT 416 | Bridge Resource Mgmt (Unltd Lic.) | 3 | |
| | OCEA 402 | Estuaries & Coastal Processes | 3 | |
| | | MES Elective | 3 | |
| Semester Credits: | | | 18 | |

| | |
|-------------------------------------|-----|
| USCG License Exam: | |
| Lower Division Credits: | 87 |
| Upper Division Credits: | 81 |
| License Credits (L in left column): | 62 |
| Total Credits: | 168 |

Note: Though not required for your license, students who plan to sail are strongly advised to take MT 435 (Maritime Security) in addition to the courses above.

(1) This course is offered in odd years only.

(2) This course is offered in even years only.

Courses in **bold type** are typically limited to the semester shown.

B.S. in Marine Environmental Science with Internship, Marine Biology Minor

Fall Semester

Spring Semester

Lower Division - Freshman Year

| | | | | |
|-------------------|----------------|--------------------------------|----|--|
| | BIO 201 | General Biology I | 4 | |
| | CS 101 | Computer Laboratory | 1 | |
| | ENGL 101 | Freshman English I | 3 | |
| | ES 101 | Intro to Environmental Science | 3 | |
| | LEAD 101 | Leadership/Maritime Experience | 1 | |
| | MATH 111 | Applied Calc I (or MATH 101) | 4 | |
| Semester Credits: | | | 16 | |

| | | | | |
|-------------------|-----------------|--------------------------------------|----|--|
| | BIO 202 | General Biology II | 4 | |
| | ENGL 102 | Freshman English II | 3 | |
| | MATH 112 | Applied Calc II (or MATH 102) | 3 | |
| | OCEA 101 | General Oceanography | 3 | |
| | OCEA 102 | General Oceanography Lab | 1 | |
| | PE 100 | Swimming and Lifetime Fitness | 1 | |
| Semester Credits: | | | 15 | |

Lower Division - Sophomore Year

| | | | | |
|-------------------|----------|--------------------------------|------|--|
| | CHEM 121 | General Chemistry I | 3 | |
| | CHEM 122 | General Chemistry I Laboratory | 1 | |
| | HIST 101 | American Civilization I | 3 | |
| | HUMN 201 | World Literature & Culture I | 3 | |
| | METE 201 | Meteorology for Mariners | 3 | |
| | PHYS 211 | General Physics I | 3 | |
| | PHYS 213 | General Physics I Lab | 0.5 | |
| Semester Credits: | | | 16.5 | |

| | | | | |
|-------------------|-----------------|--|------|--|
| | CHEM 123 | General Chemistry II | 3 | |
| | CHEM 124 | General Chemistry II Laboratory | 1 | |
| | HIST 102 | American Civilization II | 3 | |
| | HUMN 202 | World Literature & Culture II | 3 | |
| | PHYS 214 | General Physics II | 4 | |
| | PHYS 216 | General Physics II Lab | 0.5 | |
| Semester Credits: | | | 14.5 | |

Upper Division - Junior Year

| | | | | |
|-------------------|-----------------|--------------------------------|----|--|
| | BIO 210 | Ecology | 3 | |
| (2) | BIO 315 | Marine Biology | 3 | |
| (2) | CHEM 220 | Environmental Chemistry | 3 | |
| | MATH 251 | Statistics | 3 | |
| Semester Credits: | | | 12 | |

| | | | | |
|-------------------|--------------------|-------------------------------------|----|--|
| | (1) BIO 415 | Ichthyology | 3 | |
| | CHEM 221 | Organic Chemistry | 3 | |
| | CHEM 222 | Organic Chemistry Laboratory | 1 | |
| | | MES Elective | 3 | |
| | | Free Elective | 3 | |
| Semester Credits: | | | 13 | |

| | | | | |
|--|--------|-------------------------------------|---|--|
| | ES 505 | Environmental Science Internship I | 3 | |
| | ES 515 | Environmental Science Internship II | 3 | |

Upper Division - Senior Year

| | | | | |
|-------------------|--------------------|--|----|--|
| | (1) BIO 320 | Invertebrate Zoology | 4 | |
| | ES 451 | Field Methods in Environ. Science | 4 | |
| (1) | GEOL 301 | General Geology | 3 | |
| | | Free Elective | 3 | |
| Semester Credits: | | | 14 | |

| | | | | |
|-------------------|--------------------|--|----|--|
| | (2) BIO 416 | Fisheries Science | 3 | |
| | ES 420 | Environmental Pollution | 3 | |
| | GBLW 435 | Environmental Law & Policy | 3 | |
| | OCEA 402 | Estuaries & Coastal Processes | 3 | |
| | | MES Elective | 3 | |
| Semester Credits: | | | 15 | |

| | |
|-------------------------|-----|
| Lower Division Credits: | 62 |
| Upper Division Credits: | 60 |
| Total Credits: | 122 |

(1) This course is offered in odd years only.

(2) This course is offered in even years only.

Courses in **bold type** are typically limited to the semester shown.

B.S. in Marine Environmental Science with Deck License, Meteorology and Oceanography Minor

Fall Semester

Spring Semester

Lower Division - Freshman Year

| | | | | |
|-------------------|----------------|--------------------------------|----|--|
| | BIO 201 | General Biology I | 4 | |
| | CS 101 | Computer Laboratory | 1 | |
| | ENGL 101 | Freshman English I | 3 | |
| | ES 101 | Intro to Environmental Science | 3 | |
| | LEAD 101 | Leadership/Maritime Experience | 1 | |
| | MATH 111 | Applied Calc I (or MATH 101) | 4 | |
| L | PS 112 | STCW Basic Training | 2 | |
| Semester Credits: | | | 18 | |

| | | | | |
|-------------------|-----------------|--------------------------------------|----|--|
| | BIO 202 | General Biology II | 4 | |
| | ENGL 102 | Freshman English II | 3 | |
| | MATH 112 | Applied Calc II (or MATH 102) | 3 | |
| L | NAUT 102 | IntroVesselOps & Seamanship | 1 | |
| L | NAVG 112 | Terrestrial Navigation | 4 | |
| | OCEA 101 | General Oceanography | 3 | |
| | OCEA 102 | General Oceanography Lab | 1 | |
| L | PS 103 | Water Safety & Survival | 1 | |
| Semester Credits: | | | 20 | |

| | | | | |
|---|---------------|--------------------------|----------|--|
| L | MT 510 | Summer Sea Term I | 6 | |
|---|---------------|--------------------------|----------|--|

Lower Division - Sophomore Year

| | | | | |
|-------------------|----------|--------------------------------|------|--|
| | CHEM 121 | General Chemistry I | 3 | |
| | CHEM 122 | General Chemistry I Laboratory | 1 | |
| | HIST 101 | American Civilization I | 3 | |
| | HUMN 201 | World Literature & Culture I | 3 | |
| L | METE 201 | Meteorology for Mariners | 3 | |
| L | MT 250 | Ship Construction & Stability | 2 | |
| | PHYS 211 | General Physics I | 3 | |
| | PHYS 213 | General Physics I Lab | 0.5 | |
| Semester Credits: | | | 18.5 | |

| | | | | |
|-------------------|-----------------|--|------|--|
| | CHEM 123 | General Chemistry II | 3 | |
| | CHEM 124 | General Chemistry II Laboratory | 1 | |
| | HIST 102 | American Civilization II | 3 | |
| | HUMN 202 | World Literature & Culture II | 3 | |
| L | NAVG 212 | Celestial Navigation | 4 | |
| | PHYS 214 | General Physics II | 4 | |
| | PHYS 216 | General Physics II Lab | 0.5 | |
| Semester Credits: | | | 18.5 | |

| | | | | | | | | | |
|---|---------------|---------------------------|---|----|---|---------------|-----------------------------------|---|--|
| L | MT 520 | Summer Sea Term II | 6 | OR | L | MT 521 | Cadet Comm Vessel Shipping | 6 | |
|---|---------------|---------------------------|---|----|---|---------------|-----------------------------------|---|--|

Upper Division - Junior Year

| | | | | |
|-------------------|-----------------|------------------------------------|----|--|
| | BIO 210 | Ecology | 3 | |
| (2) | CHEM 220 | Environmental Chemistry | 3 | |
| | MATH 251 | Statistics | 3 | |
| L | MT 321 | Intro to Cargo Ops & Stability | 3 | |
| L | NAUT 314 | Rules of the Road | 2 | |
| L | NAUT 315 | Collision Avoidance | 3 | |
| (2) | OCEA 425 | Marine Environmental Issues | 3 | |
| Semester Credits: | | | 20 | |

| | | | | |
|-------------------|-----------------|-------------------------------------|----|--|
| | CHEM 221 | Organic Chemistry | 3 | |
| | CHEM 222 | Organic Chemistry Laboratory | 1 | |
| L | MT 322 | Marine Cargo Operations | 3 | |
| L | NAUT 308 | Nautical Operations: Safety | 2 | |
| L | NAVG 312 | Electr Nav & Voyage Planning | 4 | |
| (1) | OCEA 415 | Marine Biogeochemistry | 3 | |
| (1) | OCEA 416 | Marine Biogeochemistry Lab | 1 | |
| | | MES Elective | 3 | |
| Semester Credits: | | | 20 | |

| | | | | |
|---|---------------|----------------------------|---|--|
| L | MT 530 | Summer Sea Term III | 5 | |
| L | PS 412 | Medical Care Provider | 1 | |

Upper Division - Senior Year

| | | | | |
|-------------------|-----------------|--|----|--|
| | ES 451 | Field Methods in Environ. Science | 4 | |
| (1) | GEOL 301 | General Geology | 3 | |
| (1) | METE 350 | Synoptic Meteorology | 4 | |
| L | MT 412 | Deck License Seminar | 4 | |
| L | MT 426 | Maritime Communications | 3 | |
| Semester Credits: | | | 18 | |

| | | | | |
|-------------------|-----------------|--|----|--|
| | ES 420 | Environmental Pollution | 3 | |
| | GBLW 435 | Environmental Law & Policy | 3 | |
| (2) | METE 408 | Dynamic Meteorology | 3 | |
| L | NAUT 416 | Bridge Resource Mgmt (Unltd Lic.) | 3 | |
| | OCEA 402 | Estuaries & Coastal Processes | 3 | |
| | | MES Elective | 3 | |
| Semester Credits: | | | 18 | |

| | |
|-------------------------------------|-----|
| USCG License Exam: | |
| Lower Division Credits: | 87 |
| Upper Division Credits: | 82 |
| License Credits (L in left column): | 62 |
| Total Credits: | 169 |

Note: Though not required for your license, students who plan to sail are strongly advised to take MT 435 (Maritime Security) in addition to the courses above.

(1) This course is offered in odd years only.

(2) This course is offered in even years only.

Courses in **bold type** are typically limited to the semester shown.

B.S. in Marine Environmental Science with Internship, Meteorology and Oceanography Minor

Fall Semester

Spring Semester

Lower Division - Freshman Year

| | | | | |
|-------------------|----------------|--------------------------------|----|--|
| | BIO 201 | General Biology I | 4 | |
| | CS 101 | Computer Laboratory | 1 | |
| | ENGL 101 | Freshman English I | 3 | |
| | ES 101 | Intro to Environmental Science | 3 | |
| | LEAD 101 | Leadership/Maritime Experience | 1 | |
| | MATH 111 | Applied Calc I (or MATH 101) | 4 | |
| Semester Credits: | | | 16 | |

| | | | | |
|-------------------|-----------------|--------------------------------------|----|--|
| | BIO 202 | General Biology II | 4 | |
| | ENGL 102 | Freshman English II | 3 | |
| | MATH 112 | Applied Calc II (or MATH 102) | 3 | |
| | OCEA 101 | General Oceanography | 3 | |
| | OCEA 102 | General Oceanography Lab | 1 | |
| | PE 100 | Swimming and Lifetime Fitness | 1 | |
| Semester Credits: | | | 15 | |

Lower Division - Sophomore Year

| | | | | |
|-------------------|----------|--------------------------------|------|--|
| | CHEM 121 | General Chemistry I | 3 | |
| | CHEM 122 | General Chemistry I Laboratory | 1 | |
| | HIST 101 | American Civilization I | 3 | |
| | HUMN 201 | World Literature & Culture I | 3 | |
| | METE 201 | Meteorology for Mariners | 3 | |
| | PHYS 211 | General Physics I | 3 | |
| | PHYS 213 | General Physics I Lab | 0.5 | |
| Semester Credits: | | | 16.5 | |

| | | | | |
|-------------------|-----------------|--|------|--|
| | CHEM 123 | General Chemistry II | 3 | |
| | CHEM 124 | General Chemistry II Laboratory | 1 | |
| | HIST 102 | American Civilization II | 3 | |
| | HUMN 202 | World Literature & Culture II | 3 | |
| | PHYS 214 | General Physics II | 4 | |
| | PHYS 216 | General Physics II Lab | 0.5 | |
| Semester Credits: | | | 14.5 | |

Upper Division - Junior Year

| | | | | |
|-------------------|-----------------|------------------------------------|----|--|
| | BIO 210 | Ecology | 3 | |
| (2) | CHEM 220 | Environmental Chemistry | 3 | |
| | MATH 251 | Statistics | 3 | |
| (2) | OCEA 425 | Marine Environmental Issues | 3 | |
| Semester Credits: | | | 12 | |

| | | | | |
|-------------------|-----------------|-------------------------------------|----|--|
| | CHEM 221 | Organic Chemistry | 3 | |
| | CHEM 222 | Organic Chemistry Laboratory | 1 | |
| (1) | OCEA 415 | Marine Biogeochemistry | 3 | |
| (1) | OCEA 416 | Marine Biogeochemistry Lab | 1 | |
| | | MES Elective | 3 | |
| | | Free Elective | 3 | |
| Semester Credits: | | | 14 | |

| | | | | |
|--|--------|-------------------------------------|---|--|
| | ES 505 | Environmental Science Internship I | 3 | |
| | ES 515 | Environmental Science Internship II | 3 | |

Upper Division - Senior Year

| | | | | |
|-------------------|-----------------|--|----|--|
| | ES 451 | Field Methods in Environ. Science | 4 | |
| (1) | GEOL 301 | General Geology | 3 | |
| (1) | METE 350 | Synoptic Meteorology | 4 | |
| | | Free Elective | 3 | |
| Semester Credits: | | | 14 | |

| | | | | |
|-------------------|-----------------|--|----|--|
| | ES 420 | Environmental Pollution | 3 | |
| | GBLW 435 | Environmental Law & Policy | 3 | |
| (2) | METE 408 | Dynamic Meteorology | 3 | |
| | OCEA 402 | Estuaries & Coastal Processes | 3 | |
| | | MES Elective | 3 | |
| Semester Credits: | | | 15 | |

| | |
|-------------------------|-----|
| Lower Division Credits: | 62 |
| Upper Division Credits: | 61 |
| Total Credits: | 123 |

(1) This course is offered in odd years only.

(2) This course is offered in even years only.

Courses in **bold type** are typically limited to the semester shown.

B.S. in Marine Operations with Deck License

Fall Semester

Spring Semester

Lower Division - Freshman Year

| | | | | |
|-------------------|----------|--------------------------------|----|--|
| | 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 111 | Applied Calculus I | 4 | |
| L | PS 103 | Water Safety & Survival | 1 | |
| L | PS 112 | STCW Basic Training | 2 | |
| Semester Credits: | | | 15 | |

| | | | | |
|-------------------|----------|-------------------------------|----|--|
| | ENGL 102 | Freshman English II | 3 | |
| | HIST 101 | American Civilization I | 3 | |
| | MATH 251 | Statistics | 3 | |
| L | MT 250 | Ship Construction & Stability | 2 | |
| L | NAUT 102 | IntroVesselOps & Seamanship | 1 | |
| L | NAVG 112 | Terrestrial Navigation | 4 | |
| Semester Credits: | | | 16 | |

| | | | | |
|---|---------------|--------------------------|---|--|
| L | MT 510 | Summer Sea Term I | 6 | |
|---|---------------|--------------------------|---|--|

Lower Division - Sophomore Year

| | | | | |
|-------------------|----------|------------------------------|------|--|
| | GBEC 121 | Macroeconomics | 3 | |
| | HUMN 201 | World Literature & Culture I | 3 | |
| L | 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 | |
| Semester Credits: | | | 15.5 | |

| | | | | |
|-------------------|-----------------|-------------------------------|----|--|
| | ENGR 540 | Intro to Ship Systems | 3 | |
| | GBEC 122 | Microeconomics | 3 | |
| | HIST 102 | American Civilization II | 3 | |
| | HUMN 202 | World Literature & Culture II | 3 | |
| L | NAUT 314 | Rules of the Road | 2 | |
| L | NAVG 212 | Celestial Navigation | 4 | |
| Semester Credits: | | | 18 | |

| | | | | | | | | | |
|---|---------------|---------------------------|---|----|---|---------------|-----------------------------------|---|--|
| L | MT 520 | Summer Sea Term II | 6 | OR | L | MT 521 | Cadet Comm Vessel Shipping | 6 | |
|---|---------------|---------------------------|---|----|---|---------------|-----------------------------------|---|--|

Upper Division - Junior Year

| | | | | |
|-------------------|----------|--------------------------------|----|--|
| | ENGL 452 | Technical Writing | 3 | |
| | GBTT 251 | Transportation Systems | 3 | |
| | MT 212 | Ship Management | 3 | |
| L | MT 321 | Intro to Cargo Ops & Stability | 3 | |
| L | NAUT 315 | Collision Avoidance | 3 | |
| L | NAUT 308 | Nautical Operations: Safety | 2 | |
| | | Humanities elective | 3 | |
| Semester Credits: | | | 20 | |

| | | | | |
|-------------------|-----------------|-------------------------------|----|--|
| | CHEM 100 | Introductory Chemistry | 3 | |
| | ENGR 541 | Ship Systems I | 2 | |
| | GBTT 252 | Business of Shipping | 3 | |
| L | MT 322 | Marine Cargo Operations | 3 | |
| | MT 404 | Environmental Management | 3 | |
| L | NAVG 312 | Electr Nav & Voyage Planning | 4 | |
| Semester Credits: | | | 18 | |

| | | | | |
|---|---------------|----------------------------|---|--|
| L | MT 530 | Summer Sea Term III | 5 | |
| L | PS 412 | Medical Care Provider | 1 | |

Upper Division - Senior Year

| | | | | |
|-------------------|----------|------------------------------|----|--|
| | GBTT 457 | Port and Terminal Operations | 3 | |
| | GBUS 300 | International Business | 3 | |
| L | MT 412 | Deck License Seminar | 4 | |
| L | MT 426 | Maritime Communications | 3 | |
| | | Humanities Elective | 3 | |
| Semester Credits: | | | 16 | |

| | | | | |
|-------------------|----------|-----------------------------------|----|--|
| | GBLW 435 | Environmental Law & Policy | 3 | |
| | MT 408 | International Safety Mgt | 3 | |
| L | NAUT 416 | Bridge Resource Mgmt (Unltd Lic.) | 3 | |
| | | Humanities Elective | 3 | |
| | | LAS Elective | 3 | |
| | | LAS Elective | 3 | |
| Semester Credits: | | | 18 | |

USCG License Exam:

Lower Division Credits:

Upper Division Credits:

License Credits (L in left column):

Total Credits:

B.S. in Marine Operations with Engine License

Fall Semester

Spring Semester

Lower Division - Freshman Year

| | | | | |
|-------------------|----------|--------------------------------|----|--|
| | CS 101 | Computer Laboratory | 1 | |
| | ENGL 101 | Freshman English I | 3 | |
| | ENGR 110 | Intro to Engineering Practice | 2 | |
| | GBUS 100 | Intro to Business & Economics | 3 | |
| | LEAD 101 | Leadership/Maritime Experience | 1 | |
| | MATH 111 | Applied Calculus I | 4 | |
| L | PS 112 | STCW Basic Training | 2 | |
| Semester Credits: | | | 16 | |

| | | | | |
|-------------------|-----------------|-----------------------------------|----------|--|
| | CHEM 100 | Introductory Chemistry | 3 | |
| | ENGL 103 | Freshman English II for Engineers | 3 | |
| | ENGR 100 | Engineering Graphics | 1 | |
| L | ENGR 540 | Intro to Ship Systems | 3 | |
| | HIST 101 | American Civilization I | 3 | |
| | MATH 112 | Applied Calculus II | 3 | |
| L | PS 103 | Water Safety & Survival | 1 | |
| Semester Credits: | | | 17 | |

| | | | | |
|---|-----------------|--------------------------|---|--|
| L | ENGR 510 | Summer Sea Term I | 6 | |
|---|-----------------|--------------------------|---|--|

Lower Division - Sophomore Year

| | | | | |
|-------------------|-----------------|------------------------------|----------|--|
| | CHEM 212 | Materials Science I | 3 | |
| L | ENGR 503 | Manufacturing Process I | 1 | |
| L | ENGR 542 | Ship Systems II | 2 | |
| | GBEC 121 | Macroeconomics | 3 | |
| | HUMN 201 | World Literature & Culture I | 3 | |
| | PHYS 211 | General Physics I | 3 | |
| | PHYS 213 | General Physics I Lab | 0.5 | |
| Semester Credits: | | | 15.5 | |

| | | | | |
|-------------------|-----------------|-------------------------------|------------|--|
| L | ENGR 504 | Manufacturing Process II | 1 | |
| L | ENGR 541 | Ship Systems I | 2 | |
| | MATH 251 | Statistics | 3 | |
| | HIST 102 | American Civilization II | 3 | |
| | HUMN 202 | World Literature & Culture II | 3 | |
| | PHYS 214 | General Physics II | 4 | |
| | PHYS 216 | General Physics Lab | 0.5 | |
| Semester Credits: | | | 16.5 | |

| | | | | | | | | | |
|---|-----------------|---------------------------|---|----|---|-----------------|-----------------------------------|---|--|
| L | ENGR 520 | Summer Sea Term II | 6 | OR | L | ENGR 521 | Cadet Comm Vessel Shipping | 6 | |
|---|-----------------|---------------------------|---|----|---|-----------------|-----------------------------------|---|--|

Upper Division - Junior Year

| | | | | |
|-------------------|-----------------|----------------------------|----------|--|
| | ENGR 242 | Statics | 3 | |
| | ENGR 243 | Transport Processes | 3 | |
| | ENGR 290 | Electrical Engineering I | 3 | |
| L | ENGR 543 | Ship Systems III | 3 | |
| | GBTT 251 | Transportation Systems | 3 | |
| Semester Credits: | | | 15 | |

| | | | | |
|-------------------|-----------------|-----------------------------|----------|--|
| L | ENGR 371 | Applied Naval Architecture | 3 | |
| | ENGR 380 | Electrical Engineering II | 3 | |
| L | ENGR 544 | Ship Systems IV | 4 | |
| | GBTT 252 | Business of Shipping | 3 | |
| | MT 212 | Ship Management | 3 | |
| L | NAUT 308 | Nautical Operations: Safety | 2 | |
| Semester Credits: | | | 18 | |

| | | | | |
|---|-----------------|----------------------------|---|--|
| L | ENGR 516 | Engine License Seminar | 0 | |
| L | ENGR 530 | Summer Sea Term III | 5 | |
| L | PS 412 | Medical Care Provider | 1 | |

Upper Division - Senior Year

| | | | | |
|-------------------|----------|------------------------------|----|--|
| | GBTT 457 | Port and Terminal Operations | 3 | |
| | GBUS 300 | International Business | 3 | |
| | MT 408 | International Safety Mgt | 3 | |
| | | Humanities Elective | 3 | |
| | | LAS Elective | 3 | |
| Semester Credits: | | | 15 | |

| | | | | |
|-------------------|-----------------|---|----------|--|
| | ENGR 446 | Marine Engine Theory & Appl. | 3 | |
| | GBLW 435 | Environmental Law & Policy | 3 | |
| | MT 435 | Maritime Security | 3 | |
| | | Humanities Elective | 3 | |
| | | LAS Elective | 3 | |
| Semester Credits: | | | 15 | |

USCG License Exam:

Lower Division Credits:

Upper Division Credits:

License Credits (L in left column):

Total Credits:

B.S. in Marine Transportation with Deck License

Fall Semester

Spring Semester

Lower Division - Freshman Year

| | | | | |
|-------------------|----------|--------------------------------|----|--|
| | 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 111 | Applied Calculus I | 4 | |
| L | PS 103 | Water Safety & Survival | 1 | |
| L | PS 112 | STCW Basic Training | 2 | |
| Semester Credits: | | | 15 | |

| | | | | |
|-------------------|----------|-------------------------------|----|--|
| | ENGL 102 | Freshman English II | 3 | |
| | HIST 101 | American Civilization I | 3 | |
| | MATH 251 | Statistics | 3 | |
| L | MT 250 | Ship Construction & Stability | 2 | |
| L | NAUT 102 | IntroVesselOps & Seamanship | 1 | |
| L | NAVG 112 | Terrestrial Navigation | 4 | |
| Semester Credits: | | | 16 | |

| | | | | |
|---|---------------|--------------------------|---|--|
| L | MT 510 | Summer Sea Term I | 6 | |
|---|---------------|--------------------------|---|--|

Lower Division - Sophomore Year

| | | | | |
|-------------------|----------|------------------------------|------|--|
| | GBEC 121 | Macroeconomics | 3 | |
| | HUMN 201 | World Literature & Culture I | 3 | |
| L | METE 201 | Meteorology for Mariners | 3 | |
| | MT 408 | International Safety Mgt | 3 | |
| | MT 435 | Maritime Security | 3 | |
| | PHYS 211 | General Physics I | 3 | |
| | PHYS 213 | General Physics I Lab | 0.5 | |
| Semester Credits: | | | 18.5 | |

| | | | | |
|-------------------|----------|-------------------------------|----|--|
| | GBAC 311 | Financial Accounting | 3 | |
| | GBEC 122 | Microeconomics | 3 | |
| | HIST 102 | American Civilization II | 3 | |
| | HUMN 202 | World Literature & Culture II | 3 | |
| L | NAUT 314 | Rules of the Road | 2 | |
| L | NAVG 212 | Celestial Navigation | 4 | |
| Semester Credits: | | | 18 | |

| | | | | | | | | | |
|---|---------------|---------------------------|---|----|---|---------------|-----------------------------------|---|--|
| L | MT 520 | Summer Sea Term II | 6 | OR | L | MT 521 | Cadet Comm Vessel Shipping | 6 | |
|---|---------------|---------------------------|---|----|---|---------------|-----------------------------------|---|--|

Upper Division - Junior Year

| | | | | |
|-------------------|----------|--------------------------------|----|--|
| | ENGL 452 | Technical Writing | 3 | |
| | GBLW 431 | Business Law | 3 | |
| | GBMG 341 | Organizational Management | 3 | |
| | GBTT 251 | Transportation Systems | 3 | |
| L | MT 321 | Intro to Cargo Ops & Stability | 3 | |
| L | NAUT 315 | Collision Avoidance | 3 | |
| Semester Credits: | | | 18 | |

| | | | | |
|-------------------|----------|-----------------------------------|----|--|
| | GBEC 424 | International Economics & Finance | 3 | |
| | GBTT 252 | Business of Shipping | 3 | |
| L | MT 322 | Marine Cargo Operations | 3 | |
| | MT 404 | Environmental Management | 3 | |
| L | NAUT 308 | Nautical Operations: Safety | 2 | |
| L | NAVG 312 | Electr Nav & Voyage Planning | 4 | |
| Semester Credits: | | | 18 | |

| | | | | |
|---|---------------|----------------------------|---|--|
| L | MT 530 | Summer Sea Term III | 5 | |
| L | PS 412 | Medical Care Provider | 1 | |

Upper Division - Senior Year

| | | | | |
|-------------------|----------|-------------------------|----|--|
| | GBUS 300 | International Business | 3 | |
| L | MT 412 | Deck License Seminar | 4 | |
| L | MT 426 | Maritime Communications | 3 | |
| | | Humanities Elective | 3 | |
| | | LAS Elective | 3 | |
| Semester Credits: | | | 16 | |

| | | | | |
|-------------------|-------------|-----------------------------------|----|--|
| | GBEC 429 | Seminar: Transport. Economics | 3 | |
| | or GBMG 440 | Seminar: Strategy and Policy | | |
| | MATH 446 | Operations Research | 3 | |
| L | NAUT 416 | Bridge Resource Mgmt (Unltd Lic.) | 3 | |
| | | Humanities Elective | 3 | |
| | | LAS Elective | 3 | |
| | | LAS Elective | 3 | |
| Semester Credits: | | | 18 | |

USCG License Exam:

Lower Division Credits:

Upper Division Credits:

License Credits (L in left column):

Total Credits:

B.S. in Maritime Studies with Deck License

Fall Semester

Spring Semester

Lower Division - Freshman Year

| | | | | |
|-------------------|----------|--------------------------------|----|--|
| | 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 111 | Applied Calculus I | 4 | |
| L | PS 103 | Water Safety & Survival | 1 | |
| L | PS 112 | STCW Basic Training | 2 | |
| Semester Credits: | | | 15 | |

| | | | | |
|-------------------|---------------|---------------------------------------|----|--|
| | ENGL 102 | Freshman English II | 3 | |
| | ES 101 | Intro to Environmental Science | 3 | |
| L | METE 201 | Meteorology for Mariners | 3 | |
| L | NAUT 102 | IntroVesselOps & Seamanship | 1 | |
| L | NAVG 112 | Terrestrial Navigation | 4 | |
| | NVSC 102 | Sea Power & Maritime Affairs | 3 | |
| Semester Credits: | | | 17 | |

| | | | | |
|---|---------------|--------------------------|---|--|
| L | MT 510 | Summer Sea Term I | 6 | |
|---|---------------|--------------------------|---|--|

Lower Division - Sophomore Year

| | | | | |
|-------------------|----------|-------------------------------|----|--|
| | GBTT 251 | Transportation Systems | 3 | |
| | HIST 101 | American Civilization I | 3 | |
| | HUMN 201 | World Literature & Culture I | 3 | |
| | MATH 251 | Statistics | 3 | |
| L | MT 250 | Ship Construction & Stability | 2 | |
| | MT 435 | Maritime Security | 3 | |
| Semester Credits: | | | 17 | |

| | | | | |
|-------------------|-----------------|---------------------------------|----|--|
| | GBTT 252 | Business of Shipping | 3 | |
| | HIST 102 | American Civilization II | 3 | |
| | HUMN 202 | World Literature & Culture II | 3 | |
| L | NAUT 314 | Rules of the Road | 2 | |
| L | NAVG 212 | Celestial Navigation | 4 | |
| | OCEA 101 | General Oceanography | 3 | |
| | OCEA 102 | General Oceanography Lab | 1 | |
| Semester Credits: | | | 19 | |

| | | | | | | | | | |
|---|---------------|---------------------------|---|----|---|---------------|-----------------------------------|---|--|
| L | MT 520 | Summer Sea Term II | 6 | OR | L | MT 521 | Cadet Comm Vessel Shipping | 6 | |
|---|---------------|---------------------------|---|----|---|---------------|-----------------------------------|---|--|

Upper Division - Junior Year

| | | | | |
|-------------------|----------|--------------------------------|----|--|
| | ENGL 452 | Technical Writing | 3 | |
| | GBEC 121 | Macroeconomics | 3 | |
| | MT 404 | Environmental Management | 3 | |
| L | MT 321 | Intro to Cargo Ops & Stability | 3 | |
| L | NAUT 315 | Collision Avoidance | 3 | |
| | | Humanities Elective | 3 | |
| Semester Credits: | | | 18 | |

| | | | | |
|-------------------|--------------------|----------------------------------|----|--|
| | GBEC 122 | Microeconomics | 3 | |
| | HIST 416 | US Maritime History to Civil War | 3 | |
| | <i>or</i> HIST 417 | US Maritime History Since 1865 | 3 | |
| L | MT 322 | Marine Cargo Operations | 3 | |
| L | NAUT 308 | Nautical Operations: Safety | 3 | |
| L | NAVG 312 | Electr Nav & Voyage Planning | 4 | |
| | | Humanities Elective | 3 | |
| Semester Credits: | | | 19 | |

| | | | | |
|---|---------------|----------------------------|---|--|
| L | MT 530 | Summer Sea Term III | 5 | |
| L | PS 412 | Medical Care Provider | 1 | |

Upper Division - Senior Year

| | | | | |
|-------------------|--------------------|-----------------------------|----|--|
| | HUMN 465 | Humanities Research Methods | 3 | |
| | <i>or</i> ENGL 416 | Literature of the Sea | 3 | |
| L | MT 412 | Deck License Seminar | 4 | |
| L | MT 426 | Maritime Communications | 3 | |
| | | Humanities Elective | 3 | |
| | | Humanities Elective | 3 | |
| Semester Credits: | | | 16 | |

| | | | | |
|-------------------|-----------------|-----------------------------------|----|--|
| | GBEC 428 | Economic Geography | 3 | |
| | HUMN 490 | Studies in Maritime Policy | 3 | |
| L | NAUT 416 | Bridge Resource Mgmt (Unltd Lic.) | 3 | |
| | | Humanities Elective | 3 | |
| | | Law Elective | 3 | |
| Semester Credits: | | | 15 | |

USCG License Exam:

Lower Division Credits:

Upper Division Credits:

License Credits (L in left column):

Total Credits:

B.S. in Maritime Studies with Internship

Fall Semester

Spring Semester

Lower Division - Freshman Year

| | | | |
|-------------------|--------------------------------|----|--|
| 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 | | |
| PE 100 | Swimming and Lifetime Fitness | 1 | |
| Semester Credits: | | 13 | |

| | | | |
|-------------------|---------------------------------------|----|--|
| ENGL 102 | Freshman English II | 3 | |
| ES 101 | Intro to Environmental Science | 3 | |
| MATH 251 | Statistics | 3 | |
| METE 201 | Meteorology for Mariners | 3 | |
| NVSC 102 | Sea Power & Maritime Affairs | 3 | |
| Semester Credits: | | 15 | |

Lower Division - Sophomore Year

| | | | |
|-------------------|------------------------------|----|--|
| ENGL 452 | Technical Writing | 3 | |
| GBTT 251 | Transportations Systems | 3 | |
| HIST 101 | American Civilization I | 3 | |
| HUMN 201 | World Literature & Culture I | 3 | |
| | Free Elective | 3 | |
| Semester Credits: | | 15 | |

| | | | |
|-------------------|---------------------------------|----|--|
| GBTT 252 | Business of Shipping | 3 | |
| HIST 102 | American Civilization II | 3 | |
| HUMN 202 | World Literature & Culture II | 3 | |
| OCEA 101 | General Oceanography | 3 | |
| OCEA 102 | General Oceanography Lab | 1 | |
| | Free Elective | 3 | |
| Semester Credits: | | 16 | |

Upper Division - Junior Year

| | | | |
|-------------------|----------------------------|----|--|
| GBEC 121 | Macroeconomics | 3 | |
| GBLW 435 | Environmental Law & Policy | 3 | |
| or MT 404 | Environmental Management | | |
| | Humanities Elective | 3 | |
| | Humanities Elective | 3 | |
| | LAS Elective | 3 | |
| Semester Credits: | | 15 | |

| | | | |
|-------------------|----------------------------------|----|--|
| GBEC 122 | Microeconomics | 3 | |
| HIST 416 | US Maritime History to Civil War | 3 | |
| or HIST 417 | US Maritime History Since 1865 | | |
| | Humanities Elective | 3 | |
| | LAS Elective | 3 | |
| | Free Elective | 3 | |
| Semester Credits: | | 15 | |

Upper Division - Senior Year

| | | | |
|-------------------|-----------------------------|----|--|
| GBEC 428 | Economic Geography | 3 | |
| HUMN 465 | Humanities Research Methods | 3 | |
| or ENGL 416 | Literature of the Sea | | |
| HUMN 505 | Humanities Internship I | 3 | |
| | Humanities Elective | 3 | |
| | LAS Elective | 3 | |
| | Law Elective | 3 | |
| Semester Credits: | | 18 | |

| | | | |
|-------------------|-----------------------------------|----|--|
| HUMN 490 | Studies in Maritime Policy | 3 | |
| HUMN 515 | Humanities Internship II | 3 | |
| or | Free Elective | | |
| | Humanities Elective | 3 | |
| | LAS Elective | 3 | |
| | Law Elective | 3 | |
| Semester Credits: | | 15 | |

| | |
|-------------------------|-----|
| Lower Division Credits: | 59 |
| Upper Division Credits: | 63 |
| Total Credits: | 122 |

A.A.S. in Marine Technology: Small Vessel Operations with Assistant Engineer Limited License

Fall Semester

Spring Semester

Freshman Year

| | | | | |
|-------------------|----------|--------------------------------|----|--|
| | ENGL 101 | Freshman English I | 3 | |
| L | ENGR 503 | Manufacturing Processes I | 1 | |
| | GBUS 100 | Intro to Business & Economics | 3 | |
| | LEAD 101 | Leadership/Maritime Experience | 1 | |
| | MATH 090 | Intro to College Mathematics | 4 | |
| L | PS 103 | Water Safety & Survival | 1 | |
| L | PS 112 | STCW Basic Training | 2 | |
| Semester Credits: | | | 15 | |

| | | | | |
|-------------------|--------------------|-------------------------------------|----|--|
| | ENGL 102 | Freshman English II | 3 | |
| | ENGR 100 | Engineering Graphics | 1 | |
| L | ENGR 504 | Manufacturing Processes II | 1 | |
| L | ENGR 540 | Introduction to Ship Systems | 3 | |
| | MATH 251 | Statistics | 3 | |
| | CHEM 100 | Introductory Chemistry | 3 | |
| | <i>or</i> PHYS 211 | General Physics I | | |
| Semester Credits: | | | 14 | |

| | | | | |
|---|-----------------|--------------------------|---|--|
| L | ENGR 510 | Summer Sea Term I | 6 | |
|---|-----------------|--------------------------|---|--|

Sophomore Year

| | | | | |
|-------------------|--------------------|-------------------------------|----|--|
| L | ENGR 542 | Ship Systems II | 2 | |
| L | ENGR 561 | Small Vessels Engineer I | 4 | |
| | HIST 101 | American Civilization I | 3 | |
| | <i>or</i> HIST 102 | American Civilization II | | |
| L | MT 250 | Ship Construction & Stability | 2 | |
| L | NAUT 308 | Nautical Operations: Safety | 2 | |
| | PS 410 | The Business of Towing | 3 | |
| Semester Credits: | | | 16 | |

| | | | | |
|-------------------|-----------------|-----------------------------------|----|--|
| L | ENGR 541 | Ship Systems I | 2 | |
| L | ENGR 562 | Small Vessels Engineer II | 4 | |
| L | ENGR 563 | Small Vessel Electrical Machinery | 3 | |
| L | MTEO 201 | Small Vessel Resource Mgmt | 3 | |
| L | MT 322 | Marine Cargo Operations | 3 | |
| L | PS 412 | Medical First Aid | 1 | |
| Semester Credits: | | | 16 | |

| | | | | |
|---|-----------------|---------------------------------------|---|--|
| L | MTEO 521 | Cadet Com Vessel Asst Engr I | 2 | |
| L | MTEO 522 | Cadet Com Vessel Asst Engr II | 2 | |
| L | MTEO 523 | Cadet Com Vessel Asst Engr III | 2 | |

| | |
|-------------------------------------|----|
| License Credits (L in left column): | 46 |
| Total Credits: | 73 |

A.A.S. in Marine Technology: Small Vessel Operations with Deck Limited License

Fall Semester

Spring Semester

Freshman Year

| | | | | |
|-------------------|----------|--------------------------------|----|--|
| | ENGL 101 | Freshman English I | 3 | |
| | LEAD 101 | Leadership/Maritime Experience | 1 | |
| | MATH 090 | Intro to College Mathematics | 4 | |
| L | NAUT 102 | IntroVesselOps & Seamanship | 1 | |
| L | PS 103 | Water Safety & Survival | 1 | |
| L | PS 112 | STCW Basic Training | 2 | |
| | PS 120 | Primer of Towing | 3 | |
| Semester Credits: | | | 15 | |

| | | | | |
|-------------------|-------------|-------------------------------|----|--|
| | ENGL 102 | Freshman English II | 3 | |
| | GBUS 100 | Intro to Business & Economics | 3 | |
| | HIST 101 | American Civilization I | 3 | |
| | or HIST 102 | American Civilization II | | |
| L | MT 250 | Ship Construction & Stability | 2 | |
| L | NAVG 112 | Terrestrial Navigation | 4 | |
| Semester Credits: | | | 15 | |

| | | | | |
|---|------------------|--------------------------------------|---|--|
| L | MT 510 | Summer Sea Term I | 6 | |
| L | *MTDO 524 | Cadet Com Vssl Ship Lim Ton I | 2 | |

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

Sophomore Year

| | | | | |
|---|----------|--------------------------------|---|--|
| L | METE 201 | Meteorology for Mariners | 3 | |
| L | MT 321 | Intro to Cargo Ops & Stability | 3 | |
| L | NAUT 308 | Nautical Operations: Safety | 2 | |
| L | NAUT 314 | Rules of the Road | 2 | |
| L | NAUT 315 | Collision Avoidance | 3 | |
| | PS 410 | The Business of Towing | 3 | |

| | | | | |
|---|----------|------------------------------------|---|--|
| L | MT 322 | Marine Cargo Operations | 3 | |
| L | NAVG 312 | Electr Nav & Voyage Planning | 4 | |
| | PS 411 | Towing Operations | 3 | |
| L | PS 412 | Medical First Aid | 1 | |
| L | PS 414 | Bridge Resource Mgmt (Limited Lic. | 3 | |
| | | LAS Elective | 3 | |

With Ocean Endorsement Option:

| | | | | |
|---|--------|-------------------------|----|--|
| L | MT 426 | Maritime Communications | 3 | |
| Semester Credits: | | | 16 | |
| Semester Credits with Ocean Endorsement Option: | | | 19 | |

| | | | | |
|---|----------|----------------------|----|--|
| L | NAVG 212 | Celestial Navigation | 4 | |
| Semester Credits: | | | 17 | |
| Semester Credits with Ocean Endorsement Option: | | | 21 | |

| | | | | |
|---|-----------------|---------------------------------------|---|--|
| L | MTDO 525 | Cadet Com Vssl Ship Lim Ton II | 6 | |
|---|-----------------|---------------------------------------|---|--|

| | |
|--|----|
| License Credits (L in left column): | 42 |
| License Credits with Ocean Endorsement Option: | 49 |
| Total Credits: | 77 |
| Total Credits with Ocean Endorsement Option: | 84 |

Note: Though not required for your license, students who plan to sail are strongly advised to take MT 435 (Maritime Security) in addition to the courses above.

Courses in **bold type** are typically limited to the semester shown.