

UNDERGRADUATE DEGREE CURRICULA

For Students Entering Maritime College During 2024-25 Academic Year

As of September 24, 2024

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 and course descriptions. For some curricula, flow charts showing the sequencing of courses is also available (check with department offering your curriculum).

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 document.

<u>**Rules about Curriculum Changes**</u> (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 (except ENGL 090-095 and MATH 080) *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 301, CHEM 321, ES 420, ES 430, MATH 311, 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 300 or higher (except ENGL 452); HIST 300 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; CS 301; ENGL 300 or higher (except ENGL 452); GBEC 121, 122, 424, 428; GBLW 435; HIST 300 or higher; HUMN 300 or higher; MATH 090 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.*

B.E. in Electrical Engineering with Deck License

Fall Semester

Lower Division - Freshman Year

CHEM 121 General Chemistry I 3 Gen Ed DEISJ Elective 3 CHEM 122 General Chemistry I Laboratory 1 ENGR 100 Engineering Graphics 1 ENGL 101 Freshman English I 3 ENGR 120 Programming for Engineers 2 ENGR 110⁺ Intro to Engineering Practice 2 MATH 102 Calculus II 4 LEAD 101 Leadership/Maritime Experience NAUT 102 Intro to Vessel Ops & Seamanship 1 1 L MATH 101 Calculus I 4 NAVG 112 Navigation I: Intro to Navigation 4 L MTO 103 Water Safety & Survival PHYS 102 Engineering Physics I 4 1 L L MTO 112⁺ STCW Basic Training 2 PHYS 104 Engineering Physics I Laboratory 0.5 Semester Credits: 17 Semester Credits: 19.5 MT 510 Summer Sea Term I L 6 Lower Division - Sophomore Year ENGR 242 Statics CHEM 212 Materials Science I 3 3 MATH 211 Calculus III 4 ENGR 290 Circuit Analysis 3 L 3 ENGR 292⁺ Digital Electronics METE 201⁺ Meteorology for Mariners 4 PHYS 201 Engineering Physics II 4 MATH 212 Differential Equations 4 PHYS 203 Engineering Physics II Laboratory 0.5 NAVG 212 Navigation II: Oceans 4 General Education Elective** 3 General Education Elective** 3 L Semester Credits: 17.5 Semester Credits: 21 OR L MT 520 Summer Sea Term II 6 MT 521 Cadet Comm Vessel Shipping 6 L Upper Division - Junior Year ENGR 345 Engineering Statistical Analysis ENGR 314 Engineering Economics 3 3 ENGR 383 Signals & Systems ENGR 395⁺ Electric Machines 3 3 ENGR 396 Machine Learning 3 ENGR 385 Instrumentation & Measurement 1 ENGR 387⁺ Analog Electronics 4 ENGR 398⁺ Control System Theory 3 **ENGR 394** Electromagnetic Fields 3 MT 250 Ship Const & Stability (Unltd Lic) 2 L NAUT 314 Rules of the Road 2 NAUT 308 Nautical Operations: Safety 2 L L NAUT 315 Intro to Integrated Bridge Systems NAVG 312 Intgrtd Bridge Sys & Voyage Plannin 3 L 4 T Semester Credits: 19 Semester Credits: 20 MT 530 Summer Sea Term III L 5 L MTO 412 Medical Care Provider 1 Upper Division - Senior Year **ENGR 481** Communications Theory 3 ENGR 489⁺ Electrical Design II 4 ENGR 488⁺ Electrical Design I ENGR 494 Intro Renewable Energy Resource 3 3 ENGR 490⁺ Power Electronics & Electric Drives 4 ENGR 497 AC & DC Power Distribution Sys 3 ENGR 3xx Engineering Technical Writing 3 MT 322⁺ Marine Cargo Operations 3 L MT 321 Intro to Cargo Ops & Stability 3 L Free Elective 3 Semester Credits: 13 19 Semester Credits: 9th Semester General Education Elective** 3 USCG License Exam: MT 412 Deck License Seminar 4 L 87 Lower Division Credits: MT 426⁺ Maritime Communications 3 L 93 Upper Division Credits: NAUT 416⁺ Bridge Resource Mgmt (Unltd Lic) 3 L 62 License Credits (L in left column): Free Elective 3 180 Total Credits: Semester Credits: 16 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.

Spring Semester

B.E. in Electrical Engineering with Engine License

Fall Semester

		I	Lower Div	vision
	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	MTO 103	Water Safety & Survival	1	
L	MTO 112 ⁺	STCW Basic Training	2	
		Semester Credi	ts: 17	

1 - I	Fres	hman Year			
			Gen Ed DEISJ Elective	3	ſ
		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	ſ
		PHYS 104	Engineering Physics I Laboratory	0.5	
					Ē

Spring Semester

ENGR 510 Summer S L

Sea Term I	6	

			Low	er Div	isior	1 - S	oph	omore Year			
		ENGR 242	Statics	3				CHEM 212	Materials Science I	3	I
	L	ENGR 503+	Manufacturing Processes I	1				ENGR 290	Circuit Analysis	3	
	L	ENGR 542	Ship Systems II	2				ENGR 292+	Digital Electronics	4	I
		MATH 211	Calculus III	4			L	ENGR 504 ⁺	Manufacturing Processes II	1	I
		PHYS 201	Engineering Physics II	4			L	ENGR 541	Ship Systems I	2	I
		PHYS 203	Engineering Physics II Laboratory	0.5				MATH 212	Differential Equations	4	I
			General Education Elective**	3					General Education Elective**	3	I
-			Semester Credits:	17.5					Semester Credits:	20	I
						-					Ī

L	ENGR 520	Summer Sea T	erm II
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Upper Division - Junior Year

OR L

3			ENGR 314	Engineering Economics	
3			ENGR 395 ⁺	Electric Machines	
1			ENGR 396	Machine Learning	
4			ENGR 398+	Control System Theory	
3		L	ENGR 544	Ship Systems IV	
3		L	NAUT 308	Nautical Operations: Safety	
3					
20]			Semester Credits:	

ENGR 521 Cadet Comm Vessel Shipping

ENGR 516 Engine License Seminar L 0 L ENGR 530 Summer Sea Term III 5 MTO 412 Medical Care Provider L

	1							
$\mathbf{U}_{]}$	pper D	Divisi	on -	Se	nior	Year		
	3					ENGR	489 ⁺	Electri

L	ENGR 371	Applied Naval Architecture	3	
	ENGR 481	Communications Theory	3	
	ENGR 488+	Electrical Design I	3	
	ENGR 490+	Power Electronics & Electric Drives	4	
		Free Elective	3	
		Semester Credits:	16	

ENGR 489+	Electrical Design II	4	
ENGR 494	Intro Renewable Energy Resource	3	
ENGR 497	AC & DC Power Distribution Sys	3	
	General Education Elective**	3	
	Free Elective	3	
	Semester Credits:	16	

USCG License Exam:

Lower Division Credits: 84

Upper Division Credits: 76 License Credits (L in left column): 42

Total Credits: 160

**In compliance with SUNY General Education Framework requirements

Semester Credits:

17.5

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18

ENGR 345 Engineering Statistical Analysis ENGR 383 Signals & Systems ENGR 385 Instrumentation & Measurement ENGR 387⁺ Analog Electronics **ENGR 394** Electromagnetic Fields ENGR 543⁺ Ship Systems III L ENGR 3xx Engineering Technical Writing

2 Semester Credits:

6

B.E. in Electrical Engineering with Internship

Fall Semester

Spring Semester Lower Division - Freshman Year CHEM 121 General Chemistry I 3 Gen Ed DEISJ Elective 3 CHEM 122 General Chemistry I Laboratory 1 ENGR 100 Engineering Graphics 1 ENGL 101 Freshman English I 3 ENGR 120 Programming for Engineers 2 ENGR 110⁺ Intro to Engineering Practice 2 MATH 102 Calculus II 4 LEAD 101 Leadership/Maritime Experience 1 PHYS 102 Engineering Physics I 4 MATH 101 Calculus I 4 PHYS 104 Engineering Physics I Laboratory 0.5 PE 100 Swimming and Lifetime Fitness 1 Semester Credits: 15 Semester Credits: 14.5 Lower Division - Sophomore Year ENGR 242 Statics CHEM 212 Materials Science I 3 MATH 211 Calculus III 4 ENGR 290 Circuit Analysis 3 PHYS 201 Engineering Physics II 4 ENGR 292⁺ Digital Electronics 4 PHYS 203 Engineering Physics II Laboratory 0.5 MATH 212 Differential Equations 4 General Education Elective** General Education Elective** 3 3 Semester Credits: 14.5 Semester Credits: 17 ENGR 526 Industrial Internship I 3 **Upper Division - Junior Year** ENGR 345 Engineering Statistical Analysis ENGR 314 Engineering Economics 3 3 ENGR 383 Signals & Systems ENGR 395⁺ Electric Machines 3 3 ENGR 385 Instrumentation & Measurement ENGR 396 Machine Learning 3 1 ENGR 387⁺ Analog Electronics ENGR 398⁺ Control System Theory 4 3 General Education Elective** **ENGR 394** Electromagnetic Fields 3 3 ENGR 3xx Engineering Technical Writing 3 Semester Credits: 17 Semester Credits: 15 ENGR 536 Industrial Internship II 3 Alternate Internship Choice: ENGR 538 Extended Industrial Internship 6 **Upper Division - Senior Year** ENGR 481 Communications Theory 3 ENGR 489⁺ Electrical Design II 4 3 ENGR 488⁺ Electrical Design I ENGR 494 Intro Renewable Energy Resource 3 ENGR 490⁺ Power Electronics & Electric Drives 4 ENGR 497 AC & DC Power Distribution Sys 3 Engineering Elective 3 **Engineering Elective** 3 Free Elective 3 Semester Credits: Semester Credits: 13 16 Lower Division Credits: 64 Upper Division Credits: 64 Total Credits: 128

2024-2025 Undergraduate Degree Curricula

B.E. in Facilities Engineering with Engine License

Fall Semester

Lower Division - Fi ---

		Eur		10101
	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	MTO 103	Water Safety & Survival	1	
L	MTO 112 ⁺	STCW Basic Training	2	
		Semester Credits:	17	

res	hman Year			
		Gen Ed DEISJ Elective	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	

Spring Semester

L	ENGR 510	Summer Sea Term I	6	
		Low	er Div	ision
	ENGR 242	Statics	3	
L	ENGR 503+	Manufacturing Processes I	1	
L	ENGR 542	Ship Systems II	2	
	MATH 211	Calculus III	4	
	PHYS 201	Engineering Physics II	4	
	PHYS 203	Engineering Physics II Laboratory	0.5	
		General Education Elective**	3	
		Semester Credits:	17.5	

S	ophomore	Year

· · · ·				
	CHEM 212	Materials Science I	3	
	or *ENGR 347	Strength of Materials	3	
	ENGR 244	Dynamics	3	
	ENGR 290	Circuit Analysis	3	
L	ENGR 504 ⁺	Manufacturing Processes II	1	
L	ENGR 541	Ship Systems I	2	
	MATH 212	Differential Equations	4	
		General Education Elective**	3	
		Semester Credits:	19	

L	ENGR 520	Summer Sea Term II	6		OR	L	ENGR 521	Cadet Comm Vessel Shipping
		Uj	pper I	Divisi	on -	Ju	nior Year	
	ENGR 341	Fluid Mechanics	3				ENGR 347	Strength of Materials
	ENGR 344	Thermodynamics	3				or * CHEM 212	Materials Science I
	ENGR 345	Engineering Statistical Analysis	3				ENGR 351	Heat Transfer
	ENGR 380+	Intro to Electric Machinery	3				ENGR 354+	Marine Engineering Design I
L	ENGR 543+	Ship Systems III	3					Applied Electronics
	ENGR 3xx	Engineering Comm. & Ethics	3				ENGR 424	HVAC System Op & Mgmt
						L	ENGR 544	Ship Systems IV
						L	NAUT 308	Nautical Operations: Safety
Semester Credits:			18					Semester Credits:

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

	Entone 55 1	Marine Engineering Design I	5	
	ENGR 390	Applied Electronics	3	
	ENGR 424	HVAC System Op & Mgmt	3	
L	ENGR 544	Ship Systems IV	4	
L	NAUT 308	Nautical Operations: Safety	2	
		Semester Credits:	21	

	ENGR 314	Engineering Economics	3	
	ENGR 350+	Automation & Control Systems	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 Ma	terials Laboratory	1	
ENGR 349 Transport Pro	cesses Laboratory	1	
ENGR 426 Facilities Engi	neering Design II	4	
ENGR 444 Engr Project N	Ianagement	3	
General Educat	ion Elective**	3	
Free Elective		3	
	Semester Credits: 1	5	

se Exam:

on Credits:

Upper Division Credits:

License Credits (L in left column):

159 Total Credits:

83

76

42

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	T	nner T	Divisi	ion -	Sei	nior Year	
GR 314	Engineering Economics	3			50		Strength of Materials Labora
GR 350+	Automation & Control Systems	3				ENGR 349	Transport Processes Labor
GR 371	Applied Naval Architecture	3				ENGR 426	Facilities Engineering Desig
GR 423	HVAC System Design	3				ENGR 444	Engr Project Management
GR 425	Facilities Engineering Design I	4					General Education Elective**
							Free Elective
	Semester Credits:	16					Semester
				-			
							USCG License
							Lower Division
							Upper Division

B.E. in Facilities Engineering with Internship

Fall Semester

Lower Division - Freshm

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 or Phys Ed Elective 15		Eu		15101	
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 or Phys Ed Elective 1	CHEM 121	General Chemistry 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 or Phys Ed Elective 1	CHEM 122	General Chemistry I Laboratory	1		
LEAD 101 Leadership/Maritime Experience 1 MATH 101 Calculus I 4 PE 100 Swimming and Lifetime Fitness 1 or Phys Ed Elective 1	ENGL 101 Freshman English I				
MATH 101 Calculus I 4 PE 100 Swimming and Lifetime Fitness 1 or Phys Ed Elective 1	ENGR 110 ⁺	Intro to Engineering Practice	2		
PE 100 Swimming and Lifetime Fitness 1 or Phys Ed Elective	LEAD 101	AD 101 Leadership/Maritime Experience			
or Phys Ed Elective	MATH 101 Calculus I				
	PE 100 Swimming and Lifetime Fitness				
Semester Credits: 15	or	Phys Ed Elective			
		Semester Credits:	15		

reshman Year							
		Gen Ed DEISJ Elective	3				
	ENGR 100	Engineering Graphics	1				
		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				

Spring Semester

Lower Division - Sophomore Year

ENGR 242	Statics	3	
MATH 211	Calculus III	4	
PHYS 201	Engineering Physics II	4	
PHYS 203	Engineering Physics II Laboratory	0.5	
	General Education Elective**	3	
	Semester Credits:	14.5	

CHEM 212	Materials Science I	3	
or *ENGR 347	Strength of Materials	3	
ENGR 244	Dynamics	3	
ENGR 290	Circuit Analysis	3	
MATH 212	Differential Equations	4	
	General Education Elective**	3	
	Semester Credits:	16	

ENGR 526 Industrial Internship I

Jpper Division - Junior Ye	Jpp	oer Div	vision	- J	unior	Yea
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Semester Credits: 15

ENGR 536 Industrial Internship II

ENGR 314 Engineering Economics

ENGR 423 HVAC System Design

ENGR 350⁺ Automation & Control Systems

ENGR 425 Facilities Engineering Design I

Engineering Elective

Alternate Internship Choice:

Semester Credits:

ENGR 347	Strength of Materials	3		
or * CHEM 212	Materials Science I	3		
ENGR 351	Heat Transfer	3		
ENGR 354+	Marine Engineering Design I	3		
	Applied Electronics	3		
ENGR 424 HVAC System Op & Mgmt				
	Semester Credits:	15		

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ENGR 538 Extended Industrial Internship

Upper Division - Senior Year

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	
	General Education Elective**	3	
	Free Elective	3	
	G (C 1')	1.7	

Semester Credits: 15

Lower Division Credits:	
Upper Division Credits:	
Total Credits:	127

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

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B.E. in Marine Engineering with Engine License

Fall Semester

		L	ower Div	vision
	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	MTO 103	Water Safety & Survival	1	
L	MTO 112 ⁺	STCW Basic Training	2	
		Semester Credit	s: 17	

Spring Semester										
- Freshman Year										
			Gen Ed DEISJ Elective	3						
		ENGR 100	Engineering Graphics	1						
		ENGR 120	Programming for Engineers	2						
	L	ENGR 540 ⁺	Introduction to Ship Systems	3						
Γ		MATH 102	Calculus II	4						
		PHYS 102	Engineering Physics I	4						
		PHYS 104	Engineering Physics I Laboratory	0.5						
			Semester Credits:	17.5						

Semester Credits: 17.5

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L	ENGR 510	Summer Sea Term I	6					
		Low	er Div	ision	- S	oph	omore Year	
	ENGR 242	Statics	3				CHEM 212	Materials Science I
L	ENGR 503+	Manufacturing Processes I	1				or *ENGR 347	Strength of Materials
L	ENGR 542	Ship Systems II	2				ENGR 244	Dynamics
	MATH 211	Calculus III	4				ENGR 290	Circuit Analysis
	PHYS 201	Engineering Physics II	4			L	ENGR 504 ⁺	Manufacturing Processes II
	PHYS 203	Engineering Physics II Laboratory	0.5			L	ENGR 541	Ship Systems I
		General Education Elective**	3				MATH 212	Differential Equations
		Semester Credits:	17.5					General Education Elective**

Semester Credits:

Elective**

L	ENGR 520	Summer Sea Term II	6		OR	L	ENGR 521	Cadet Comm Vessel Shipping	6						
	Upper Division - Junior Year														
	ENGR 341	Fluid Mechanics	3				ENGR 345	Engineering Statistical Analysis	3						
	ENGR 344	Thermodynamics	3				ENGR 348	Strength of Materials Laboratory	1						
	ENGR 347	Strength of Materials	2				ENGR 351	Heat Transfer	3						
	or * CHEM 212	Materials Science I	5		5	5	5	5				ENGR 354+	Marine Engineering Design I	3	
	ENGR 380+	Intro to Electric Machinery	3					Applied Electronics	3						
L	ENGR 543+	Ship Systems III	3			L	ENGR 544	Ship Systems IV	4						
L	NAUT 308	Nautical Operations: Safety	2	2 Semester Credits:		17									
		Semester Credits:	17												

	Upper Division							
L	MTO 412	Medical Care Provider	1					
L	ENGR 530	Summer Sea Term III	5					
L	ENGR 516	Engine License Seminar	0					

			Upper L	Divisio
	ENGR 314	Engineering Economics	3	
L	ENGR 371	Applied Naval Architecture	3	
	ENGR 423 HVAC System Design			
	or ENGR 454	Vibrations	3	
	ENGR 440 ⁺	Marine Engineering Design II	3	
	ENGR 453	Modern Concepts	3	
	ENGR3xx	Engineering Technical Writing	3	
	: 18			

- Senior Year							
ENGR 349	Transport Processes Laboratory	1					
ENGR 350+	Automation & Control Systems	3					
ENGR 444	Engr Project Management	3					
ENGR 450	Marine Engineering Design III	4					
ENGR 495	Marine Electrical Systems	3					
	General Education Elective**	3					
	Semester Credits:	17					

m:	
its:	83
its:	75
m):	42
its:	158

USCG License Exa

Lower Division Credi

Upper Division Credi

License Credits (L in left colum

Total Credi

2024-2025 Undergraduate Degree Curricula

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B.E. in Mechanical Engineering with Engine License

Fall 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	
		Leadership/Maritime Experience	1	
	MATH 101	Calculus I	4	
L	MTO 103	Water Safety & Survival	1	
L	MTO112+	STCW Basic Training	2	
		Semester Credits:	17	

Spring Semester

L CD				
		Gen Ed DEISJ Elective	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	

ENGR 510 Summer Sea Term I

Lower Division - Sophomore Year

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	ENGR 242		3					Materials Science I	3
L		Manufacturing Processes I	1					Strength of Materials	5
L		Ship Systems II	2				ENGR 244	Dynamics	3
	MATH 211	Calculus III	4				ENGR 290	Circuit Analysis	3
		Engineering Physics II	4			L		Manufacturing Processes II	1
	PHYS 203	Engineering Physics II Laboratory	0.5			L		Ship Systems I	2
		General Education Elective**	3				MATH 212	Differential Equations	4
		Semester Credits:	17.5					General Education Elective**	3
					-			Semester Credits:	19
L	ENGR 520	Summer Sea Term II	6		OR	L	ENGR 521	Cadet Comm Vessel Shipping	6
		U	pper D	Divisi	ion -	- Ju	nior Year		
	ENGR 344	Thermodynamics	3		1			Machine Design	3
		Strength of Materials	-				ENGR 454		3
		Materials Science I	3				ENGR 351	Heat Transfer	3
	ENGR 380 ⁺	Intro to Electric Machinery	3				ENGR 390	Applied Electronics	3
L	ENGR 543 ⁺	Ship Systems III	3			L	ENGR 544	Ship Systems IV	4
	ENGR 341	Fluid Mechanics	3				ENGR 3xx	Engineering Comm. & Ethics	3
L	NAUT 308	Nautical Operations: Safety	2					Semester Credits:	19
		Semester Credits:	17						•
					-				
L		Engine License Seminar	0						
L	ENGR 530	Summer Sea Term III	5						
L	MTO 412	Medical Care Provider	1						
			pper D	Divisi	ion ·	Sei	nior Year		
		Strength of Materials Laboratory	1				ENGR 314	Engineering Economics	3
L	ENGR 371	Applied Naval Architecture	3				ENGR 349	Transport Processes Laboratory	1
	ENGR 418 ⁺	Mechanical Engr Design I	4					Marine Engineering Design I	3
		Engineering Statistical Anaylysis	3				ENGR 419+	Mechanical Engr Design II	4
	ENGR 456	Computer Aided Engineering	3					Engineering Elective	3
		General Education Elective**	3					Free Elective	3
		•				· · · · ·		•	

Semester Credits: 17

Semester Credits:

Lower Division Credits:

Upper Division Credits:

License Credits (L in left column):

Total Credits:

17

83

76

42 159

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

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	
	Swimming and Lifetime Fitness	1	
or	Phys Ed Elective		

	Gen Ed DEISJ Elective	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	Ye	a
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	LOW		151011
ENGR 242	Statics	3	
ENGR 503+	Manufacturing Processes I	1	
MATH 211	Calculus III	4	
PHYS 201	Engineering Physics II	4	
PHYS 203	Engineering Physics II Laboratory	0.5	
	General Education Elective**	3	
	Semester Credits:	15.5	

ENGR 526 Industrial Internship I

3

opn							
	CHEM 212	Materials Science I					
	or *ENGR 347	Strength of Materials	3				
	ENGR 244	Dynamics	3				
	ENGR 290	Circuit Analysis	3				
	MATH 212	Differential Equations	4				
		General Education Elective**	3				
		Semester Credits:	16				

Upper Division - Junior Year

	U	ррсі і	111510
ENGR 344	Thermodynamics	3	
ENGR 347	Strength of Materials	2	
or * CHEM 212	Materials Science I	5	
ENGR 380+	Intro to Electric Machinery	3	
ENGR 341	Fluid Mechanics	3	
	Free Elective	3	
	Semester Credits:	15	

ENGR 536	Industrial Internship II
ENGR 550	muusulai mieliisiip n

Alternate Internship Choice:

3

ENGR 312	Machine Design	3			
ENGR 454	Vibrations	3			
ENGR 351	Heat Transfer	3			
ENGR 3xx	Engineering Comm. & Ethics	3			
	Electrical Engineering Elective	3			
Semester Credits:					

ENGR 538 Extended Industrial Internship

		Upper D	Divisior
ENGR 418+	Mechanical Engr Design I	4	
ENGR 345	Engineering Statistical Analysis	3	
ENGR 456	Computer-Aided Engineering	3	
	General Education Elective**	3	
	Engineering Elective	3	
	Semester Credits	s: 16	

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		ENGR 314	Engineering Economics	
		ENGR 348	Strength of Materials Laboratory	
		ENGR 349	Transport Processes Laboratory	
		ENGR 354+	Marine Engineering Design I	
		ENGR 419 ⁺	Mechanical Engr Design II	

Engineering Elective Semester Credits: 6

3 15

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

Electrical Engineering Electives:

ENGR 383 Signals & Systems

ENGR 390 Applied Electronics

ENGR 396 Machine Learning

ENGR 398 Control System Theory

ENGR 494 Introduction to Renewable Energy Resources

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

per Division - Senior Year

B.E. in Naval Architecture with Deck License

Fall 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 4 MATH 101 Calculus I L MTO 103 Water Safety & Survival 1 MTO 112⁺ STCW Basic Training L 2 Semester Credits: 17

		Gen Ed DEISJ Elective	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 & Seamanship	1	
L	NAVG 112	Navigation I: Intro to Navigation	4	
		Semester Credits:	19.5	

Lower Division - Sophomore Year

6

	ENGR 242	Statics	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	
		General Education Elective**	3	
		Semester Credits:	17.5	

MT 510 Summer Sea Term I

	CHEM 212	Materials Science I	3	
	or *ENGR 347	Strength of Materials	3	
	ENGR 244	Dynamics	3	
	ENGR 290	Circuit Analysis	3	
	MATH 212	Differential Equations	4	
	NAVG 212	Navigation II: Oceans	4	
L		General Education Elective**	3	
		Semester Credits:	20	

Semester Credits: 20

L	MT 520	Summer Sea Term II	6		OR	L	MT 521	Cadet Comm Vessel Shipping	6	
			Upper	Divis	sion -	Juni	or Year			
	ENGR 347	Strength of Materials	3				ENGR 341	Fluid Mechanics	3	
	or * CHEM 212	Materials Science I	3				ENGR 344	Thermodynamics	3	
L	ENGR 363	Ship Statics	3				ENGR 366 ⁺	Ship Structure	4	
	ENGR 365+	Ship Form and Graphics	3				ENGR 368+	Ship Design I	4	
	ENGR 380+	Intro to Electric Machinery	3			L	NAUT 308	Nautical Operations: Safety	2	
L	NAUT 314	Rules of the Road	2			L	NAVG 312	Intgrtd Bridge Sys & Voyage Plannin	4	
L	NAUT 315	Intro to Integrated Bridge Systems	3					Semester Credits:	20	
		Semester Credits:	17							

L	MT 530	Summer Sea Term III	5	1
L	MTO 412	Medical Care Provider	1	1

		Upper	Divis	ion -	;
ENGR 345	Engineering Statistical Analysis	3			
ENGR 461 ⁺	Ship Design II	4			Γ
ENGR 462+	Ship Resistance and Propulsion	3			Γ
ENGR 472+	Sailboat Principles & Design	3			Γ
or	Engineering Elective	3			Γ
MT 321	Intro to Cargo Ops & Stability	3			
ENGR 3xx	Engineering Comm. & Ethics	3			

Senior Year

	ENGR 348	Strength of Materials Laboratory	1	
		Marine Engineering Design I	3	
	ENGR 471 ⁺	Ship Design III	4	
	ENGR 473	Ship Dynamics	3	
	ENGR 476 ⁺	Power Boat Principles & Design	3	
	or	Engineering Elective	3	
L	MT 322	Marine Cargo Operations	3	
			17	

* Students wishing to transfer to a Mechanical Engineering

program at another SUNY campus should take this course.

Semester Credits: 17

USCG License Exam:

Lower Division Credits: Upp Division Credi License Credits (L in left colum Total Credi

per	86
its:	95
n): its:	63
115.	181

All Naval Architecture students must take at least one of the Boat Principles & Design courses ENGR 472/476. 041. C.

Semester Credits:

		9th Semester		
L	MT 412	Deck License Seminar	4	
L	MT 426+	Maritime Communications	3	
L	NAUT 416+	Bridge Resource Mgmt (Unltd Lic)	3	
		General Education Elective**	3	
		Free Elective	3	
		Semester Credits:	16	

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.

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**In compliance with SUNY General Education Framework requirements

Courses in **bold** type are typically limited to the semester shown. + Students must register for both lecture and laboratory or recitation (as applicable).

Spring Semester

B.E. in Naval Architecture with Engine License

Fall 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	
		Leadership/Maritime Experience	1	
	MATH 101	Calculus I	4	
L	MTO 103	Water Safety & Survival	1	
L	MTO 112 ⁺	STCW Basic Training	2	
		Semester Credits:	17	

ENGR 510 Summer Sea Term I

L

		Gen Ed DEISJ Elective	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:			

Spring Semester

_									
		Lo	wer Di	ivisi	on -	Sop	homore Year		
	ENGR 242	Statics	3				CHEM 212	Materials Science I	3
L	ENGR 503+	Manufacturing Processes I	1				or *ENGR 347	Strength of Materials	3
L	ENGR 542	Ship Systems II	2				ENGR 244	Dynamics	3
	MATH 211	Calculus III	4				ENGR 290	Circuit Analysis	3
	PHYS 201	Engineering Physics II	4			L	ENGR 504+	Manufacturing Processes II	1
	PHYS 203	Engineering Physics II Laboratory	0.5			L	ENGR 541	Ship Systems I	2
		General Education Elective**	3				MATH 212	Differential Equations	4
		Semester Credits:	17.5					General Education Elective**	3
					-			Semester Credits:	19
L	ENGR 520	Summer Sea Term II	6		OR	L	ENGR 521	Cadet Comm Vessel Shipping	6
		U	pper D	Divisi	ion ·	Ju	nior Year	·	
	ENGR 347	Strength of Materials	3				ENGR 341	Fluid Mechanics	3
	or * CHEM 212	Materials Science I					ENGR 344	Thermodynamics	3
L	ENGR 363	Ship Statics	3				ENGR 366 ⁺	Ship Structure	4
	ENGR 365+	Ship Form and Graphics	3				ENGR 368+	Ship Design I	4
	ENGR 380+	Intro to Electric Machinery	3			L	ENGR 544	Ship Systems IV	4
L	ENGR 543+	Ship Systems III	3			L	NAUT 308	Nautical Operations: Safety	2
	ENGR 3xx	Engineering Technical Writing	3					Semester Credits:	20
		Semester Credits:	18						
					-				
L	ENGR 516	Engine License Seminar	0						
L	ENGR 530	Summer Sea Term III	5						
L	MTO 412	Medical Care Provider	1						
			pper D	Divisi	ion ·	- Sei	nior Year		
	ENGR 345	Engineering Statistical Analysis	3				ENGR 348	Strength of Materials Laboratory	1

6

ENGR 345	Engineering Statistical Analysis	3		
ENGR 390	Applied Electronics	3		
ENGR 461 ⁺	Ship Design II	4		
ENGR 462+	Ship Resistance and Propulsion	3		
ENGR 472+	Sailboat Principles & Design	3		
or	Engineering Elective	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	
ENGR 476 ⁺	Power Boat Principles & Design	3	
or	Engineering Elective	3	
	General Education Elective**	3	
	Semester Credits:	17	

All Naval Architecture students must take at least one of the Boat Principles & Design courses ENGR 472/476 * Students wishing to transfer to a Mechanical Engineering program at another SUNY campus should take this course.

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

B.E. in Naval Architecture with Internship

Fall Semester Spring Semester Lower Division - Freshman Year CHEM 121 General Chemistry I Gen Ed DEISJ Elective 3 3 CHEM 122 General Chemistry I Laboratory ENGR 100 Engineering Graphics 1 1 ENGL 101 Freshman English I 3 ENGR 120 Programming for Engineers 2 ENGR 110⁺ Intro to Engineering Practice 2 MATH 102 Calculus II 4 LEAD 101 Leadership/Maritime Experience PHYS 102 Engineering Physics I 1 4 MATH 101 Calculus I 4 PHYS 104 Engineering Physics I Laboratory 0.5 PE 100 Swimming and Lifetime Fitness 1 Semester Credits: 15 Semester Credits: 14.5 Lower Division - Sophomore Year ENGR 242 Statics CHEM 212 Materials Science I 3 3 MATH 211 Calculus III 4 or *ENGR 347 Strength of Materials PHYS 201 Engineering Physics II 4 ENGR 244 Dynamics 3 PHYS 203 Engineering Physics II Laboratory ENGR 290 Circuit Analysis 0.5 3 General Education Elective** MATH 212 Differential Equations 4 3 14.5 General Education Elective** 3 Semester Credits: Semester Credits: 16 ENGR 526 Industrial Internship I 3 **Upper Division - Junior Year** ENGR 347 Strength of Materials ENGR 341 Fluid Mechanics 3 3 or * CHEM 212 Materials Science I ENGR 344 Thermodynamics 3 **ENGR 363** Ship Statics 3 ENGR 348 Strength of Materials Laboratory 1 ENGR 365⁺ Ship Form and Graphics 3 ENGR 366⁺ Ship Structure 4 ENGR 380⁺ Intro to Electric Machinery 3 ENGR 368⁺ Ship Design I 4 3 ENGR 3xx Engineering Technical Writing Semester Credits: 15 Semester Credits: 15 ENGR 536 Industrial Internship II 3 ENGR 538 Extended Industrial Internship Alternate Internship Choice: 6 **Upper Division - Senior Year** ENGR 345 Engineering Statistical Analysis 3 3 ENGR 354⁺ Marine Engineering Design I ENGR 461⁺ Ship Design II 4 ENGR 471⁺ Ship Design III 4 ENGR 462⁺ Ship Resistance and Propulsion 3 **ENGR 473** Ship Dynamics 3 ENGR 472⁺ Sailboat Principles & Design ENGR 476⁺ Power Boat Principles & Design 3 3 or Engineering Elective or Engineering Elective Engineering Elective 3 General Education Elective** 3 Semester Credits: 16 Semester Credits: 16 All Naval Architecture students must take at least one of the Boat Principles & Design courses ENGR 472/476. 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.

B.S. in Data Science and Machine Learning with Internship,

Logistics & Transportation Concentration

Fall Semester

	Lov	ver Div	visio	n -]	Fres	hı
CS 131	Programming I	3				
ENGL 101	Freshman English I	3				
GBUS 100	Intro to Business and Economics	3				
LEAD 101	Leadership/Maritime Experience	1				
MATH 101	Calculus I	4			(1)	
	Semester Credits:	14				

eshman Year						
		Gen Ed DEISJ Elective	3			
	CS 202	Introduction to Data Science	3			
	MATH 102	Calculus II	4			
	PE 100	Swimming and Lifetime Fitness	1			
)		Gen Ed Natural Science	4			
		Semester Credits:	15			

Spring Semester

Lower Division - Sophomore Year

-				
	MATH 211	Calculus III	4	
	MATH 213	Discrete Mathematics	3	
	MATH 251	Statistics	3	
		General Education Elective**	3	
		LAS Elective	3	
		Semester Credits:	16	

	MATH 311	Linear Algebra	3	
	STAT 301	Statistics II	3	
		General Education Elective**	3	
(1)		General Education Elective**	3	
		LAS Elective	3	
		Semester Credits:	15	

Upper Division - Junior Year

	-	<u> </u>	
CS 301	Data Structures & Algorithims	3	
CS 311	Machine Learning I	3	
GBTT 251	Transportation Systems	3	
HUMN 467	Science Fiction	3	
	LAS Elective	3	
	Semester Credits:	15	

CS 312	Machine Learning II	3	
GBTT 252	Business of Shipping	3	
STAT 401	Time Series Analysis	3	
	LAS Elective	3	
	Semester Credits:	12	

DS 525 Data Science	Internship 6
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Upper Division - Senior Year

	CS 401	Database Systems	3	
	CS 411	Deep Learning	3	
	GBTT 453	Import/Export and Traffic Mgt	3	
(2)		MATH/STAT/CS Elective	3	
		Free Elective	3	
		Semester Credits:	15	

 Students in Oceans and Environment Concentration must 	(1)) Students	in	Oceans	and	Environment	Concentration	mus
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take OCEA 101 and OCEA 102.

(2) Must be 3 credits or above and at least one must be 300 level or above.

	CS 425	Data Science Practicum	3	
	GBTT 351	International Logistics	3	
(2)		MATH/STAT/CS Elective	3	
		Free Elective	3	
		Semester Credits:	12	

Lower Division Credits:	
Upper Division Credits:	
Total Credits:	120

2024-2025 Undergraduate Degree Curricula

Spring Semester

B.S. in International Transportation and Trade with Deck License

Fall Semester

	ran semester	wor Div	vicion	- F1	roch	man Year		
Т	CS 101 Computer Laboratory			- FI	I CSII		Gen Ed DEISJ Elective	3
+	ENGL 101 Freshman English I	3		-		GBEC 121	Macroeconomics	3
+	GBUS 100 Intro to Business & Economics	3		-			US History Since 1865	3
	LEAD 101 Leadership/Maritime Experience	1		-		MATH 251		3
+	MATH 111 Applied Calculus I	4		-	L		Ship Construction & Stability	2
+	MTO 103 Water Safety & Survival	1		_	L		Intro to Vessel Ops & Seamanship	1
,	MTO 112 ⁺ STCW Basic Training	2		-	L		Navigation I: Intro to Navigation	4
1	General Education Elective**	3		L	-	1.111 0 112	Semester Credits:	19
	Semester Credits							17
	MT 510 Summer Sea Term I	6		C.	1			
Т	GBAC 311 Financial Accounting	3	ISIOII	- 50 Г	pno	more Year	Managerial Accounting	3
+	GBEC 122 Microeconomics	3		-			Admiralty Law	3
				-				-
+	GBLW 431 Business Law	3		-			Fundamentals of Marketing	3
	MT 321 Intro to Cargo Ops & Stability	3		_			Later Wrld Civilization & Culture	3
	NAUT 314 Rules of the Road	2		_	L		Meteorology for Mariners	3
	General Education Elective**	3		L	L	NAVG 212	Navigation II: Oceans	4
	Semester Credits	: 17					Semester Credits:	19
,	MT 520 Summer Sea Term II	6		OR	L	MT 521	Cadet Comm Vessel Shipping	6
		Upper I	Divisio			or Year		
	ENGL 452 Technical Writing	3					Financial Management	3
	GBEC 424 Intl. Economics and Finance	3					Economic Geography	3
	GBTT 251 Transportation Systems	3					Business of Shipping	3
	MT 322 ⁺ Marine Cargo Operations	3			L	NAUT 308	Nautical Operations: Safety	2
,	NAUT 315 Intro to Integrated Bridge Systems	3			L	NAVG 312	Intgrtd Bridge Sys & Voyage Plannin	4
	PHYS 211 General Physics I	3					LAS Elective	3
	PHYS 213 General Physics I Lab	0.5					Semester Credits:	18
	Semester Credits	: 18.5						
	MT 530 Summer Sea Term III	5						
		1						
,	MTO 412 Medical Care Provider	1						
,		-		G				
,	U	pper Di	ivisio	n - S	Senio		Sominar: Transport Economics	
	U GBLW 435 Environmental Law & Policy	pper D	ivisio	n - S	Senio	GBEC 429	Seminar: Transport. Economics	3
	U GBLW 435 Environmental Law & Policy GBMG 341 Organizational Management	pper D i	ivisio	n - S	Senio	GBEC 429 or GBMG 440	Seminar: Strategy and Policy	
	U GBLW 435 Environmental Law & Policy GBMG 341 Organizational Management GBTT 451 Marine Insurance	pper D 3 3 3		n - S	Senio	GBEC 429 or GBMG 440 GBTT 351	Seminar: Strategy and Policy International Logistics	3
,	U GBLW 435 Environmental Law & Policy GBMG 341 Organizational Management GBTT 451 Marine Insurance MT 412 Deck License Seminar	pper D 3 3 3 4		n - S	Senio	GBEC 429 or GBMG 440 GBTT 351 GBTT 453	Seminar: Strategy and Policy International Logistics Import/Export & Traffic Mgt.	3
,	U GBLW 435 Environmental Law & Policy GBMG 341 Organizational Management GBTT 451 Marine Insurance MT 412 Deck License Seminar MT 426 Maritime Communications	pper D 3 3 3 4 3		n - S	Senio	GBEC 429 or GBMG 440 GBTT 351 GBTT 453 GBUS 300	Seminar: Strategy and Policy International Logistics Import/Export & Traffic Mgt. International Business	3 3 3
-	U GBLW 435 Environmental Law & Policy GBMG 341 Organizational Management GBTT 451 Marine Insurance MT 412 Deck License Seminar MT 426 Maritime Communications International Studies Humanities Elective	pper D 3 3 4 3 3 3				GBEC 429 or GBMG 440 GBTT 351 GBTT 453 GBUS 300 MATH 446	Seminar: Strategy and Policy International Logistics Import/Export & Traffic Mgt. International Business Operations Research	3 3 3 3
	U GBLW 435 Environmental Law & Policy GBMG 341 Organizational Management GBTT 451 Marine Insurance MT 412 Deck License Seminar MT 426 Maritime Communications	pper D 3 3 4 3 3 3			Senio L	GBEC 429 or GBMG 440 GBTT 351 GBTT 453 GBUS 300 MATH 446	Seminar: Strategy and Policy International Logistics Import/Export & Traffic Mgt. International Business Operations Research Bridge Resource Mgmt (Unltd Lic)	3 3 3 3 3
,	U GBLW 435 Environmental Law & Policy GBMG 341 Organizational Management GBTT 451 Marine Insurance MT 412 Deck License Seminar MT 426 Maritime Communications International Studies Humanities Elective	pper D 3 3 4 3 3 3				GBEC 429 or GBMG 440 GBTT 351 GBTT 453 GBUS 300 MATH 446	Seminar: Strategy and Policy International Logistics Import/Export & Traffic Mgt. International Business Operations Research Bridge Resource Mgmt (Unltd Lic) Semester Credits:	3 3 3 3
,	U GBLW 435 Environmental Law & Policy GBMG 341 Organizational Management GBTT 451 Marine Insurance MT 412 Deck License Seminar MT 426 Maritime Communications International Studies Humanities Elective Semester Credits International Studies Humanities Electives	(pper D) 3 3 3 4 3 : 19				GBEC 429 or GBMG 440 GBTT 351 GBTT 453 GBUS 300 MATH 446	Seminar: Strategy and Policy International Logistics Import/Export & Traffic Mgt. International Business Operations Research Bridge Resource Mgmt (Unltd Lic) Semester Credits: USCG License Exam:	3 3 3 3 3 18
_	U GBLW 435 Environmental Law & Policy GBMG 341 Organizational Management GBTT 451 Marine Insurance MT 412 Deck License Seminar MT 426 Maritime Communications International Studies Humanities Elective Semester Credits International Studies Humanities Electives ENGL 416 Literature of the Sea NVSC 102 Sea Power ar	Image: Provide and the image in th				GBEC 429 or GBMG 440 GBTT 351 GBTT 453 GBUS 300 MATH 446	Seminar: Strategy and Policy International Logistics Import/Export & Traffic Mgt. International Business Operations Research Bridge Resource Mgmt (Unltd Lic) Semester Credits: USCG License Exam: Lower Division Credits:	3 3 3 3 18 85
_	U GBLW 435 Environmental Law & Policy GBMG 341 Organizational Management GBTT 451 Marine Insurance MT 412 Deck License Seminar MT 426 Maritime Communications International Studies Humanities Elective Semester Credits International Studies Humanities Electives	Image: Provide and the image in th				GBEC 429 or GBMG 440 GBTT 351 GBTT 453 GBUS 300 MATH 446	Seminar: Strategy and Policy International Logistics Import/Export & Traffic Mgt. International Business Operations Research Bridge Resource Mgmt (Unltd Lic) Semester Credits: USCG License Exam: Lower Division Credits: Upper Division Credits:	3 3 3 3 18 85 79.5
,	U GBLW 435 Environmental Law & Policy GBMG 341 Organizational Management GBTT 451 Marine Insurance MT 412 Deck License Seminar MT 426 Maritime Communications International Studies Humanities Elective Semester Credits International Studies Humanities Electives ENGL 416 Literature of the Sea NVSC 102 Sea Power and	Image: Provide with a state of the				GBEC 429 or GBMG 440 GBTT 351 GBTT 453 GBUS 300 MATH 446	Seminar: Strategy and Policy International Logistics Import/Export & Traffic Mgt. International Business Operations Research Bridge Resource Mgmt (Unltd Lic) Semester Credits: USCG License Exam: Lower Division Credits: Upper Division Credits: License Credits (L in left column):	3 3 3 3 18 85 79.5 62
,	U GBLW 435 Environmental Law & Policy GBMG 341 Organizational Management GBTT 451 Marine Insurance MT 412 Deck License Seminar MT 426 Maritime Communications International Studies Humanities Elective Semester Credits International Studies Humanities Electives ENGL 416 Literature of the Sea NVSC 102 Sea Power ar ENGL 418 Contemporary Literature NVSC 311 Evolution o	Image: Provide with a state of the				GBEC 429 or GBMG 440 GBTT 351 GBTT 453 GBUS 300 MATH 446	Seminar: Strategy and Policy International Logistics Import/Export & Traffic Mgt. International Business Operations Research Bridge Resource Mgmt (Unltd Lic) Semester Credits: USCG License Exam: Lower Division Credits: Upper Division Credits: License Credits (L in left column):	3 3 3 3 18 85 79.5
,	U GBLW 435 Environmental Law & Policy GBMG 341 Organizational Management GBTT 451 Marine Insurance MT 412 Deck License Seminar MT 426 Maritime Communications International Studies Humanities Elective Semester Credits International Studies Humanities Electives ENGL 416 Literature of the Sea NVSC 102 Sea Power ar ENGL 418 Contemporary Literature NVSC 311 Evolution o ENGL 470 Major British Authors Foreign Language Cou	Image: Provide with a state of the				GBEC 429 or GBMG 440 GBTT 351 GBTT 453 GBUS 300 MATH 446	Seminar: Strategy and Policy International Logistics Import/Export & Traffic Mgt. International Business Operations Research Bridge Resource Mgmt (Unltd Lic) Semester Credits: USCG License Exam: Lower Division Credits: Upper Division Credits: License Credits (L in left column):	3 3 3 3 18 85 79.5 62
,	U GBLW 435 Environmental Law & Policy GBMG 341 Organizational Management GBTT 451 Marine Insurance MT 412 Deck License Seminar MT 426 Maritime Communications International Studies Humanities Elective Semester Credits International Studies Humanities Electives ENGL 416 Literature of the Sea NVSC 102 Sea Power ar ENGL 416 Literature of the Sea NVSC 102 Sea Power ar ENGL 416 Contemporary Literature NVSC 311 Evolution o ENGL 470 Major British Authors Foreign Language Cou HIST 401-02 Topics in European Civilization I-II	Image: Provide with a state of the				GBEC 429 or GBMG 440 GBTT 351 GBTT 453 GBUS 300 MATH 446	Seminar: Strategy and Policy International Logistics Import/Export & Traffic Mgt. International Business Operations Research Bridge Resource Mgmt (Unltd Lic) Semester Credits: USCG License Exam: Lower Division Credits: Upper Division Credits: License Credits (L in left column):	3 3 3 3 18 85 79.5 62
,	U GBLW 435 Environmental Law & Policy GBMG 341 Organizational Management GBTT 451 Marine Insurance MT 412 Deck License Seminar MT 426 Maritime Communications International Studies Humanities Elective Semester Credits International Studies Humanities Electives ENGL 416 Literature of the Sea NVSC 102 Sea Power an ENGL 416 Literature of the Sea NVSC 102 Sea Power an ENGL 416 Contemporary Literature NVSC 311 Evolution o ENGL 470 Major British Authors Foreign Language Cou HIST 401-02 Topics in European Civilization I-II HIST 418 Hist of American Foreign Policy	Image: Provide with a state of the				GBEC 429 or GBMG 440 GBTT 351 GBTT 453 GBUS 300 MATH 446	Seminar: Strategy and Policy International Logistics Import/Export & Traffic Mgt. International Business Operations Research Bridge Resource Mgmt (Unltd Lic) Semester Credits: USCG License Exam: Lower Division Credits: Upper Division Credits: License Credits (L in left column):	3 3 3 3 18 85 79.5 62
,	U GBLW 435 Environmental Law & Policy GBMG 341 Organizational Management GBTT 451 Marine Insurance MT 412 Deck License Seminar MT 426 Maritime Communications International Studies Humanities Elective Semester Credits International Studies Humanities Electives ENGL 416 Literature of the Sea NVSC 102 Sea Power an ENGL 416 Literature of the Sea NVSC 102 Sea Power an ENGL 416 Contemporary Literature NVSC 311 Evolution o ENGL 470 Major British Authors Foreign Language Cou HIST 401-02 Topics in European Civilization I-II HIST 418 Hist of American Foreign Policy HIST 421 Vietnam and America	Image: Provide with a state of the				GBEC 429 or GBMG 440 GBTT 351 GBTT 453 GBUS 300 MATH 446	Seminar: Strategy and Policy International Logistics Import/Export & Traffic Mgt. International Business Operations Research Bridge Resource Mgmt (Unltd Lic) Semester Credits: USCG License Exam: Lower Division Credits: Upper Division Credits: License Credits (L in left column):	3 3 3 3 18 85 79.5 62
	U GBLW 435 Environmental Law & Policy GBMG 341 Organizational Management GBTT 451 Marine Insurance MT 412 Deck License Seminar MT 426 Maritime Communications International Studies Humanities Elective Semester Credits International Studies Humanities Electives ENGL 416 Literature of the Sea NVSC 102 Sea Power ar ENGL 416 Literature of the Sea NVSC 102 Sea Power ar ENGL 416 Literature of the Sea NVSC 102 Sea Power ar ENGL 416 Contemporary Literature NVSC 311 Evolution o ENGL 470 Major British Authors Foreign Language Cou HIST 401-02 Topics in European Civilization 1-II HIST 418 Hist of American Foreign Policy HIST 421 Vietnam and America HIST 425 History of Technology	Image: Provide with a state of the				GBEC 429 or GBMG 440 GBTT 351 GBTT 453 GBUS 300 MATH 446	Seminar: Strategy and Policy International Logistics Import/Export & Traffic Mgt. International Business Operations Research Bridge Resource Mgmt (Unltd Lic) Semester Credits: USCG License Exam: Lower Division Credits: Upper Division Credits: License Credits (L in left column):	3 3 3 3 18 85 79.5 62
	U GBLW 435 Environmental Law & Policy GBMG 341 Organizational Management GBTT 451 Marine Insurance MT 412 Deck License Seminar MT 426 Maritime Communications International Studies Humanities Elective Semester Credits International Studies Humanities Electives ENGL 416 Literature of the Sea ENGL 416 Literature of the Sea ENGL 416 Contemporary Literature ENGL 418 Contemporary Literature ENGL 418 Contemporary Literature NVSC 311 Evolution o ENGL 470 Major British Authors HIST 401-02 Topics in European Civilization I-II HIST 418 Hist of America HIST 421 Vietnam and America HIST 425 History of Technology HIST 426 Twentieth Century Technology	Image: Provide with a state of the		Jote: 1	Γhoug	GBEC 429 or GBMG 440 GBTT 351 GBTT 453 GBUS 300 MATH 446 NAUT 416 ⁺	Seminar: Strategy and Policy International Logistics Import/Export & Traffic Mgt. International Business Operations Research Bridge Resource Mgmt (Unltd Lic) Semester Credits: USCG License Exam: Lower Division Credits: Upper Division Credits: License Credits (L in left column):	3 3 3 3 18 85 79.5 62

2024-2025 Undergraduate Degree Curricula

Fall Semester

Lower	Division	-	Freshman	Year	
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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	4	
	GenEd Natural Science	3	
	Semester Credits:	15	

Spring Semester	
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	Gen Ed DEISJ Elective	3	
GBEC 121	Macroeconomics	3	
GBMG 345	Fundamentals of Marketing	3	
MATH 251	Statistics	3	
	General Education Elective**	3	
	Semester Credits:	15	

Lower Division - Sophomore Year

ENGL 452	Technical Writing	3	
GBAC 311	Financial Accounting	3	
GBEC 122	Microeconomics	3	
HIST 102	US History Since 1865	3	
	General Education Elective**	3	
	Semester Credits:	15	

GBAC 315	Managerial Accounting	3	
GBLW 431	Business Law	3	
HUMN 202	Later Wrld Civilization & Culture	3	
	Free Elective	3	
	LAS Elective	3	
	Semester Credits:	15	

Upper Division - Junior Year

GBEC 424	Intl. Economics and Finance	3		GBEC 427	Financial Management	3	
GBLW 433	Admiralty Law	3		GBEC 428	Economic Geography	3	
GBMG 341	Organizational Management	3		GBTT 252	Business of Shipping	3	
GBTT 251	Transportation Systems	3			International Studies Elective	3	
	LAS Elective	3			LAS Elective	3	
	Semester Credits:	15			Semester Credits:	15	
GBUS 525	ITT Internship / Work Experience	6	OR	GBUS 526	ITT Study Abroad	6	

Upper Division - Senior Year

GBTT 451 Marine Insurance 3 or GBMG 440 Seminar: Strategy and Policy 3 GBTT 453 Import/Export & Traffic Mgt. 3 GBTT 351 International Logistics 3 GBTT 457 Port and Terminal Operations 3 GBUS 300 International Business 3 International Studies Elective 3 MATH 446 Operations Research 3 Semester Credits: 15 Phys Ed Elective 1	GBLW 435	Environmental Law & Policy	3		GBEC 429	Seminar: Transport. Economics	2	
GBTT 457 Port and Terminal Operations 3 GBUS 300 International Business 3 International Studies Elective 3 MATH 446 Operations Research 3	GBTT 451	Marine Insurance	3		or GBMG 440	Seminar: Strategy and Policy	3	
International Studies Elective 3 MATH 446 Operations Research 3	GBTT 453	Import/Export & Traffic Mgt.	3		GBTT 351	International Logistics	3	
	GBTT 457	Port and Terminal Operations	3		GBUS 300	International Business	3	
Semester Credits: 15 Phys Ed Elective 1		International Studies Elective	3		MATH 446	Operations Research	3	
		Semester Credits:	15			Phys Ed Elective	1	

Semester Credits: 13

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

International Studies Electives

At least one of these two electives must be chosen from the left column (International Studies Humanities Electives)

ENGL 416	Literature of the Sea	GBLW 437	International Law
ENGL 418	Contemporary Literature	GBMG 442	Intl Marketing Management
ENGL 470	Major British Authors	GBMG 443	Cross-Cultural Management
HIST 401/2	Topics in European Civilization I-II	GBTT 460	Principles of Global Supply Chain Security
HIST 418	Hist of American Foreign Policy	GBUS 400	Maritime Cyber Security
HIST 421	Vietnam and America	GBUS 410 GBUS 526	Studies in the African Transportation & Maritime Industry ITT Study Abroad*
HIST 425	History of Technology	MT 408	International Safety Management
HIST 426	Twentieth Century Technology	111 400	international barety intallagement
HIST 473	Europe and the World	MT 435	Maritime Security
HIST 474	Latine America and the World		
NVSC 102	Sea Power and Maritime Affairs		*Other Study Abroad courses to be evaluated by Dept. Chair
NVSC 311	Evolution of Warfare Foreign Language Courses		

In compliance with SUNY General Education Framework requirements Courses in **bold type are typically limited to the semester shown. + Students must register for both lecture and laboratory or recitation (as applicable).

B.S. in Marine Environmental Science with Deck License

Fall Semester

		LUV		15101
	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	MTO 112 ⁺	STCW Basic Training	2	
		Semester Credits:	18	

Spring	Semester
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Lower Division - Freshman Year4BIO 202* General Biology II41Gen Ed DEISJ Elective33MATH 112 Applied Calc II (or MATH 102)31LNAUT 102 Intro to Vessel Ops & Seamanship12LNAVG 112 Navigation I: Intro to Navigation42OCEA 101 General Oceanography3							
	4			BIO 202+	General Biology II	4	
	1				Gen Ed DEISJ Elective	3	
	3			MATH 112	Applied Calc II (or MATH 102)	3	
	3		L	NAUT 102	Intro to Vessel Ops & Seamanship	1	
•	1		L	NAVG 112	Navigation I: Intro to Navigation	4	
	4			OCEA 101	General Oceanography	3	
	2			OCEA 102	General Oceanography Lab	1	
edits:	18		L	MTO 103	Water Safety & Survival	1	
-		•			Semester Credits:	20	1

Semester Credits: 20

L	MT 510	Summer Sea Term I	6							
		Low	er Div	visior	n - S	opho	omore Year			
	CHEM 121	General Chemistry I	3				BIO 210	Ecology	3	
	CHEM 122	General Chemistry I Laboratory	1				CHEM 123	General Chemistry II	3	
	GEOL 101	General Geology	3				CHEM 124	General Chemistry II Laboratory	1	
L	METE 201+	Meteorology for Mariners	3			L	MT 322+	Marine Cargo Operations	3	
L	MT 250	Ship Construction & Stability	2			L	NAVG 212	Navigation II: Oceans	4	
	PHYS 211	General Physics I	3					General Education Elective**	3	
	PHYS 213	General Physics I Lab	0.5					General Education Elective**	3	
		General Education Elective**	3]			Semester Credits:	20	
		Semester Credits:	18.5		1					
					-					
L	MT 520	Summer Sea Term II	6		OR	L	MT 521	Cadet Comm Vessel Shipping	6	

Upper	Division	-	Juni
Opper	DIVISION	-	Jum

		-	L L .	 		
	BIO/METE/OCEA	Core MES Course	3-4	*	BIO/METE/OCEA	Core MES Cour
	CHEM 311	Environmental Chemistry	3		CHEM 321	Organic Chemi
	CHEM 312	Environmental Chemistry Lab	1		CHEM 322	Organic Chemi
	BIO 417	Biostatistics	3		ES 303	GIS
,	MT 321	Intro to Cargo Ops & Stability	3	L	NAUT 308	Nautical Operat
,	NAUT 314	Rules of the Road	2	L	NAVG 312	Intgrtd Bridge S
	NAUT 315	Intro to Integrated Bridge Systems	3			MES Elective
		Semester Credits:	18-19			

L	MT 530	Summer Sea Term III	5	
L	MTO 412	Medical Care Provider	1	

*	BIO/METE/OCEA	Core MES Course	3-4	
	CHEM 321	Organic Chemistry	3	
	CHEM 322	Organic Chemistry Laboratory	1	
	ES 303	GIS	3	
L	NAUT 308	Nautical Operations: Safety	2	
L	NAVG 312	Intgrtd Bridge Sys & Voyage Plannin	4	
		MES Elective	3	
		Semester Credits:	19-20	

		U	pper D	Divisi	on - S	Sei	nior Year
*	BIO/METE/OCEA	Core MES Course	3-4		*		BIO/METI
	ES 440	Global Climate Change	3				
	ES 451+	Field Methods in Environ. Science	4				
L	MT 412	Deck License Seminar	4				GB
L	MT 426+	Maritime Communications	3		I	Ľ	NA
		Semester Credits:	18-19				00

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	*	BIO/METE/OCEA	Core MES Course	3-4	
		ES 418	Environmental Sustainability	3	
		ES 430	Environmental Impact Assessment	3	
		GBLW 435	Environmental Law & Policy	3	
	L	NAUT 416 ⁺	Bridge Resource Mgmt (Unltd Lic.)	3	
		OCEA 402	Coastal Processes and Mngt	3	
			Semester Credits:	18-19	

* See next page.

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USCG License Exam: Lower Division Credits: 88.5 Upper Division Credits: License Credits (L in left column): 167.5-

79

62

168.5

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. + Students must register for both lecture and laboratory or recitation (as applicable).

B.S. in Marine Environmental Science with Internship

Fall Semester

	I	Lower Div	visio
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 Credi	ts: 16	

- Freshman Year			
BIO 202+	General Biology II	4	
	Gen Ed DEISJ Elective	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	

Spring Semester

Lower Division - Sophomore Year

CHEM 121	General Chemistry I	3	
CHEM 122	General Chemistry I Laboratory	1	
GEOL 101	General Geology	3	
METE 201+	Meteorology for Mariners	3	
PHYS 211	General Physics I	3	
PHYS 213	General Physics I Lab	0.5	
	General Education Elective**	3	
	Semester Credits:	16.5	

<u>opn</u>	omore rear			
	BIO 210	Ecology	3	
	CHEM 123	General Chemistry II	3	
	CHEM 124	General Chemistry II Laboratory	1	
		General Education Elective**	3	
		General Education Elective**	3	
		Semester Credits:	13	

Upper	Division	-	Junior	Year
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_				
*	BIO/METE/OCEA	Core MES Course	3-4	
	BIO 417	Biostatistics	3	
	CHEM 311	Environmental Chemistry	3	
	CHEM 312	Environmental Chemistry Lab	1	
		Free Elective	3	
		Semester Credits:	13-14	

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

*	BIO/METE/OCEA	Core MES Course	3-4	
	CHEM 321	Organic Chemistry	3	
	CHEM 322	Organic Chemistry Laboratory	1	
	ES 303	GIS	3	
		MES Elective	3	
		Semester Credits:	13-14	

Upper Division - Senior Year

*	BIO/METE/OCEA	Core MES Course	3-4	
	ES 440	Global Climate Change	3	
	ES 451+	Field Methods in Environ. Science	4	
		Free Elective	3	
		Semester Credits:	13-14	

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*	BIO/METE/OCEA	Core MES Course	3-4	
	ES 418	Environmental Sustainability	3	
	ES 430	Environmental Impact Assessment	3	
	GBLW 435	Environmental Law & Policy	3	
	OCEA 402	Coastal Processes and Mngt	3	
		Semester Credits:	15-16	
	*	ES 418 ES 430 GBLW 435	Environmental Sustainability ES 418 Environmental Sustainability ES 430 Environmental Impact Assessment GBLW 435 Environmental Law & Policy OCEA 402 Coastal Processes and Mngt	ES 418Environmental Sustainability3ES 430Environmental Impact Assessment3GBLW 435Environmental Law & Policy3

Lower Division Credits:	60.5
Upper Division Credits:	61
Total Credits:	121.5

*To fulfill the CORE MES Courses, students will choose from the following list of upper-level courses with prefixes- BIO, METE, OCEA. One course must be from each discipline for a total of three courses and the fourth from a discipline of their choice.

BIO: Marine Biology (BIO 315), Ichthyology (BIO 415), Invertebrate Zoology (BIO 320), Marine Botany (BIO 340), Fisheries Science (BIO 416), Ecotoxicology (BIO 420)

OCEA: Marine Geology (OCEA 414), Marine Biogeochemistry (OCEA 415), Marine Environmental Issues (OCEA 425)

METE: Synoptic Meteorology (METE 350), Tropical Cyclones (METE 402), Dynamic Meteorology (METE 408), Marine Climatology (METE 411), Weather Forecasting (METE 422)

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

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

B.S. in Marine Operations with Deck License

Fall Semester

		Lo	wer Di	visio	n - F	Fres
	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			
	MTO 120 ⁺	Primer of Towing	3			L
L	MTO 103	Water Safety & Survival	1			L
L	MTO 112 ⁺	STCW Basic Training	2			L
		Semester Credits:	17			

Freshman Year					
	CS 101	Computer Laboratory	1		
		Gen Ed DEISJ Elective	3		
		Gen Ed US His & Civic Eng Elective	3		
	MATH 251	Statistics	3		
L	MT 250	Ship Construction & Stability	2		
L	NAUT 102	Intro to Vessel Ops & Seamanship	1		
L	NAVG 112	Navigation I: Intro to Navigation	4		
		a a 1			

Spring Semester

Semester Credits: 17

L	MT 510	Summer Sea Term I

		Lower Divi	ision	- Sop	homore Year
GBEC 121	Macroeconomics	3			ENGR
METE 201+	Meteorology for Mariners	3			GBEC
MT 322+	Marine Cargo Operations	3		L	NAUT
PHYS 211	General Physics I	3		L	NAVO
PHYS 213	General Physics I Lab	0.5			

Semester Credits:

6

3

15.5

6

	ENGR 540 ⁺	Intro to Ship Systems	3	
	GBEC 122	Microeconomics	3	
L	NAUT 314	Rules of the Road	2	
L	NAVG 212	Navigation II: Oceans	4	
		Gen Ed Wrld His & Glb Aw Elective	3	
		General Education Elective**	3	
		Semester Credits:	18	

Upper Division - Junior Year

L ENGL 452 Technical Writing 3 ENGR 542 Ship Systems II 2 GBTT 251 Transportation Systems 3 MT 212 Ship Management 3 L MT 321 Intro to Cargo Ops & Stability 3 L NAUT 308 Nautical Operations: Safety 2 L NAUT 315 Intro to Integrated Bridge Systems 3 Semester Credits: 19			U	Pher 1	0111510
GBTT 251 Transportation Systems 3 MT 212 Ship Management 3 L MT 321 Intro to Cargo Ops & Stability 3 L NAUT 308 Nautical Operations: Safety 2 L NAUT 315 Intro to Integrated Bridge Systems 3	L	ENGL 452	Technical Writing	3	
MT 212 Ship Management 3 L MT 321 Intro to Cargo Ops & Stability 3 L NAUT 308 Nautical Operations: Safety 2 L NAUT 315 Intro to Integrated Bridge Systems 3		ENGR 542	Ship Systems II	2	
L MT 321 Intro to Cargo Ops & Stability 3 L NAUT 308 Nautical Operations: Safety 2 L NAUT 315 Intro to Integrated Bridge Systems 3		GBTT 251	Transportation Systems	3	
L NAUT 308 Nautical Operations: Safety 2 L NAUT 315 Intro to Integrated Bridge Systems 3		MT 212	Ship Management	3	
L NAUT 315 Intro to Integrated Bridge Systems 3	L	MT 321	Intro to Cargo Ops & Stability	3	
	L	NAUT 308	Nautical Operations: Safety	2	
Semester Credits: 19	L	NAUT 315	Intro to Integrated Bridge Systems	3	
			Semester Credits:	19	

General Education Elective**

MT 521 Cadet Comm Vessel Shipping

L	MT 530	Summer Sea Term III	5	
L	MTO 412	Medical Care Provider	1	

- Junor Tear					
	CHEM 100	Introductory Chemistry	3		
	GBEC 428	Economic Geography	3		
	GBTT 252	Business of Shipping	3		
L	NAVG 312	Intgrtd Bridge Sys & Voyage Plannin	4		
		Humanities Elective	3		
		Samastar Cradits:	16		

Semester Credits: 16

Upper Division - Senior Year

	GBTT 457	Port and Terminal Operations	3	
L	MT 412	Deck License Seminar	4	
L	MT 426 ⁺	Maritime Communications	3	
	MTO 211	Advanced Towing Operations	3	
		Humanities Elective	3	
Semester Credits:			16	

	GBLW 435	Environmental Law & Policy	3	
	MT 408	International Safety Mgt	3	
	MTO 212	Business of Towing	3	
L	MTOD 414+	Bridge Resource and Team Mgmt	3	
		Humanities Elective	3	
		LAS Elective	3	
		Semester Credits:	18	

Semester Credits:

USCG License Exam:

79.5

75

62

Lower Division Credits:

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

Total Credits: 154.5

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.

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B.S. in Marine Operations with Engine License

Fall Semester

		Lov	wer Di	visio	n - 1	Fre
	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			L
	LEAD 101	Leadership/Maritime Experience	1			
	MATH 111	Applied Calculus I	4			L
L	MTO 112+	STCW Basic Training	2			L
		Semester Credits:	16			

Fres	hman Year			
	CHEM 100	Introductory Chemistry	3	
		Gen Ed DEISJ Elective	3	
	ENGR 100	Engineering Graphics	1	
L	ENGR 540	Intro to Ship Systems	3	
	MATH 112	Applied Calculus II	3	
L	MT 250	Ship Construction & Stability	2	
L	MTO 103	Water Safety & Survival	1	
			1.0	

Spring Semester

Semester Credits: 16

L	ENGR 510	Summer Sea Term I

Lower	Division	-	Sophomore	Year
Lower	DIVISION	-	Sophomore	i cai

6

	CHEM 212	Materials Science I	3	
L	ENGR 503+	Manufacturing Process I	1	
L	ENGR 542	Ship Systems II	2	
	GBEC 121	Macroeconomics	3	
	PHYS 211	General Physics I	3	
	PHYS 213	General Physics I Lab	0.5	
	ENGR 3xx	Engineering Comm & Ethics Req	3	
		Gen Ed US His & Civic Eng Elective	3	
		Semester Credits:	18.5	

L	ENGR 504+	Manufacturing Process II	1	
L	ENGR 541	Ship Systems I	2	
L	MT 322+	Marine Cargo Operations	3	
	MTO 310	Shipyard Management	3	
	PHYS 214	General Physics II	4	
	PHYS 216	General Physics Lab	0.5	
		Gen Ed Wrld His & Glb Aw Elective	3	
		Semester Credits:	16.5	

L	ENGR 520 Summer Sea Term II	6	OR	L	ENGR 521	Cadet Comm Vessel Shipping
-		0	on	-		cuder commit resser simpling

			Upper D	ivision -	Ju	nior Year
	ENGR 243	Transport Processes	3			ENG
	ENGR 290	Circuit Analysis	3		L	EN
L	ENGR 543+	Ship Systems III	3			GB
	MTOE 201+	Engine Room Resource Mgmt	3			MA
		General Education Elective**	3		L	NA
		Semester Credit	s: 15			

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

	ENGR 380+	Intro to Electric Machinery	3	
L	ENGR 544	Ship Systems IV	4	
	GBTT 251	Transportation Systems	3	
	MATH 251	Statistics	3	
L	NAUT 308	Nautical Operations: Safety	2	
			15	

Semester Credits: 15

	Upper Divi	sion -	Senior	Year
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GBTT 252	Business of Shipping	3	
GBTT 457	Port and Terminal Operations	3	
GBUS 300	International Business	3	
	Humanities Elective	3	
	LAS Elective	3	
	Semester Credits:	15	

Ship Management

Maritime Security

Intro Regulatory

Framework

Professional Option Courses:

MT 212 MT 435

MTO 200

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ENGR 446	Marine Engine Theory & Appl.	3	
GBLW 435	Environmental Law & Policy	3	
	Humanities Elective	3	
	LAS Elective	3	
	Professional Option	3	
	Semester Credits:	15	

USCG License Exam:

79

6

Lower Division Credits:

Upper Division Credits: 66 License Credits (L in left column):

Total Credits:

44 145

**In compliance with SUNY General Education Framework requirements

Courses in **bold** type are typically limited to the semester shown. + Students must register for both lecture and laboratory or recitation (as applicable).

B.S. in Marine Transportation with Deck License

Fall Semester

		Low	ver Div	visio	1 - F	res	hm
	CS 101	Computer Laboratory	1				
	ENGL 101	Freshman English I	3				
	GBUS 100	Intro to Business & Economics	3				
	LEAD 101	Leadership/Maritime Experience	1			L	
	MATH 111	Applied Calculus I	4			L	
L	MTO 103	Water Safety & Survival	1			L	
L	MTO 112 ⁺	STCW Basic Training	2				
		Semester Credits:	15				

man Year			
	Gen Ed DEISJ Elective	3	
	Gen Ed US His & Civic Eng Elective	3	
MATH 251	Statistics	3	
MT 250	Ship Construction & Stability	2	
NAUT 102	Intro to Vessel Ops & Seamanship	1	
NAVG 112	Navigation I: Intro to Navigation	4	

Spring Semester

Semester Credits: 16

L	MT 510	Summer Sea Term I	
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Lower Division - Sophomore Year

6

	GBEC 121	Macroeconomics	3		GBEC 122	Microeconomics	3	
L	METE 201+	Meteorology for Mariners	3		GBTT 251	Transportation Systems	3	
L	MT 322+	Marine Cargo Operations	3	L	NAUT 314	Rules of the Road	2	
	MT 408	International Safety Mgt	3	L	NAVG 212	Navigation II: Oceans	4	
	PHYS 211	General Physics I	3			Gen Ed Wrld His & Glb Aw Elective	3	
	PHYS 213	General Physics I Lab	0.5			General Education Elective**	3	
		General Education Elective**	3					
		Semester Credits:	18.5			Semester Credits:	18	

L	MT 520 Summer Sea Term II	6		OR	L	MT 521	Cadet Comm Vessel Shipping	6	
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			Upper L	Divisi
	ENGL 452	Technical Writing	3	
	GBEC 428	Economic Geography	3	
	GBLW 431	Business Law	3	
	GBMG 341	Organizational Management	3	
L	MT 321	Intro to Cargo Ops & Stability	3	
L	NAUT 315	Intro to Integrated Bridge Systems	3	
		Semester Credits	: 18	

-	Ju	mor rear			
		GBEC 424	International Economics & Finance	3	
		GBLW 435	Environmental Law & Policy	3	
		GBTT 252	Business of Shipping	3	
		MT 435	Maritime Security	3	
	L	NAUT 308	Nautical Operations: Safety	2	
	L	NAVG 312	Intgrtd Bridge Sys & Voyage Plannin	4	
			Semester Credits:	18	

	L	MT 530	Summer Sea Term III	5	
ſ	L	MTO 412	Medical Care Provider	1	

		U	pper I	Divisi	ion -	Ser	nior Year			
	GBUS 300	International Business	3		1 1		GBEC 429	Seminar: Transport. Economics	3	
L	MT 412	Deck License Seminar	4				or GBMG 440	Seminar: Strategy and Policy	3	
L	MT 426+	Maritime Communications	3			MATH 446 Operations Research			3	
		Humanities Elective	3			L	NAUT 416+	Bridge Resource Mgmt (Unltd Lic.)	3	
		LAS Elective	3					Humanities Elective	3	
						*		Professional Option	3	
		Semester Credits:	16					Semester Credits:	15	
*Professional Option Courses: GBAC 311 Financial Accounting GBLW 433 Admiralty Law USCG License Exam: GBTT 451 Marine Insurance]			
	GBTT 460 Principles of Gl	lobal Supply Chain Security						Lower Division Credits:	79.5	
	GBUS 400 Maritime Cybe	ersecurity						Upper Division Credits:	73	
	MT 404 Environmental M	lanagement						License Credits (L in left column):	62	
	MTO 212 The Business of	Towing						Total Credits:	152.5	
	MTO 211 Advanced Towi	ng Operations								
	NAUT 420 Piloting and Sh	iphandling								

NAUT 460 Coastal Operations

NAUT 476 Fast Rescue Boat Operations

**In compliance with SUNY General Education Framework requirements

Courses in **bold** type are typically limited to the semester shown. + Students must register for both lecture and laboratory or recitation (as applicable).

per Division - Junior Year

MT 510 0

B.S. in Maritime Studies with Deck License

Fall Semester

n - Freshman Year

Spring Semester

		Lov	ver Div	vision
	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	MTO 103	Water Safety & Survival	1	
L	MTO 112 ⁺	STCW Basic Training	2	
		Semester Credits:	15	

103							
		Gen Ed DEISJ Elective	3				
	ES 101 ⁺	Intro to Environmental Science	3				
L	MT 250	Ship Construction & Stability	2				
L	NAUT 102	Intro to Vessel Ops & Seamanship	1				
L	NAVG 112	Navigation I: Intro to Navigation	4				
	NVSC 102	Sea Power & Maritime Affairs	3				
		Semester Credits:	16				

MT 510	Summer Sea Term I	6	

	Lower Division - Sophomore Year									
	GBEC 121	Macroeconomics	3				GBEC 122	Microeconomics	3	
	MATH 251	Statistics	3			L	NAUT 314	Rules of the Road	2	
L	METE 201+	Meteorology for Mariners	3			L	NAVG 212	Navigation II: Oceans	4	
L	MT 322+	Marine Cargo Operations	3				OCEA 101	General Oceanography	3	
		Gen Ed US His & Civic Eng Elective	3				OCEA 102	General Oceanography Lab	1	
		Gen Ed Wrld His & Glb Aw Elective	3					General Education Elective**	3	
								General Education Elective**	3	
	Semester Credits:							Semester Credits:	19	
					-					
L	MT 520	Summer Sea Term II	6		OR	L	MT 521	Cadet Comm Vessel Shipping	6	

Upper Division - Junior Year

		- 1	ppv. 2	
	ENGL 452	Technical Writing	3	
	GBLW 435	Environmental Law & Policy	3	
	GBTT 251	Transportation Systems	3	
L	MT 321	Intro to Cargo Ops & Stability	3	
L	NAUT 315	Intro to Integrated Bridge Systems	3	
		Humanities Elective	3	
		Semester Credits:	18	

		GBTT 252	Business of Shipping	3	
Γ		HIST 416	US Maritime History to Civil War	3	
		or HIST 417	US Maritime History Since 1865	3	
		MT 435	Maritime Security	3	
Γ	L	NAUT 308	Nautical Operations: Safety	2	
	L	NAVG 312	Intgrtd Bridge Sys & Voyage Plannin	4	
			Humanities Elective	3	

Semester Credits: 18

L	MT 530	Summer Sea Term III	5	
L	MTO 412	Medical Care Provider	1	

Upper Division - Senior Year

(1)	HUMN 465	Humanities Research Methods	3	
	or 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:

80

73

62

Upper Division Credits:

License Credits (L in left column):

Total Credits: 153

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

B.S. in Maritime Studies with Internship

Fall Semester

	Le	ower Div	vision	- Fre	shman Year
CS 101	Computer Laboratory	1			
ENGL 101	Freshman English I	3			ES
GBUS 100	Intro to Business & Economics	3			MATI
LEAD 101	Leadership/Maritime Experience	1			METE
MATH 090	Intro to College Mathematics	4			NVS
or MATH 111	Applied Calculus I	4			
PE 100	Swimming and Lifetime Fitness	1			
	Semester Credits	: 13			

Spring Semester

res	iiiiaii i eai			
		Gen Ed DEISJ Elective	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

	Lowe		19101
ENGL 452	Technical Writing	3	
GBEC 121	Macroeconomics	3	
	Gen Ed US His & Civic Eng Elective	3	
	Gen Ed Wrld His & Glb Aw Elective	3	
	Free Elective	3	
	Semester Credits:	15	

- I			
GBEC 122	Microeconomics	3	
OCEA 101	General Oceanography	3	
OCEA 102	General Oceanography Lab	1	
	General Education Elective**	3	
	General Education Elective**	3	
	Free Elective	3	
	Composton Creditor	16	

Semester Credits: 16

Upper Division - Junior Year

GBTT 252	Business of Shipping	3	
HIST 416	US Maritime History to Civil War	3	
or HIST 417	US Maritime History Since 1865	3	
	Humanities Elective	3	
	LAS Elective	3	
	Free Elective	3	
	Semester Credits:	15	

			T. T	
	GBEC 428	Economic Geography	3	
(1)	HUMN 465	Humanities Research Methods	3	
	or ENGL 416	Literature of the Sea	5	
	HUMN 505	Internship in Maritime Studies I	3	
		Humanities Elective	3	
		LAS Elective	3	
		Law Elective	3	
		Semester Credits:	18	

Upper Division - Senior Year

- Semon Tean			
HUMN 4	90 Studies in Maritime Policy	3	
HUMN 5	15 Internship in Maritime Studies II	3	
	or Free Elective	3	
	Humanities Elective	3	
	LAS Elective	3	
	Law Elective	3	
	Semester Credits:	15	

Semester Credits: 18

Lower Division Credits:	
Upper Division Credits:	
Total Credits:	122

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

A.A.S. in Maritime Technology with Engine License

Fall Semester

Spring Semester

	Freshman Year									
	ENGL 101	Freshman English I	3					Gen Ed DEISJ Elective	3	
		Leadership/Maritime Experience	1		ĺ		ENGR 100	Engineering Graphics	1	
		Intro to College Mathematics	4		Ì	L	ENGR 540 ⁺	Introduction to Ship Systems	3	
L		Water Safety & Survival	1			L	MT 250	Ship Construction & Stability	2	
L		STCW Basic Training	2					Gen Ed Natural Science Elective	3	
		Gen Ed US His & Civic Eng Elective	3					General Education Elective**	3	+
		General Education Elective**	3		l			Semester Credits:	15	+
		Semester Credits:	17					Semester Credits.	15	

1	ENGR 510	Summer Sea Term I	6]	L	

MTOE 521 Cadet Com Vessel Asst Engr I

Sophomore Year

L	ENGR 503+	Manufacturing Processes I	1		[L	ENGR 504 ⁺	Manufacturing Processes II	1
L	ENGR 542	Ship Systems II	2			L	ENGR 541	Ship Systems I	2
	MTO 310	Shipyard Management	3			L		Marine Cargo Operations	3
L	MTOE 561 ⁺	Marine Eng & Aux Machinery I	3			L	MTOE 563 ⁺	Marine Electrical Machinery	3
L	MTOE 564 ⁺	Engine Room Resource Mgmt	3			L	MTOE 562 ⁺	Marine Eng & Aux Machinery II	3
L	NAUT 308	Nautical Operations: Safety	2			L	MTO 412	Medical First Aid	1
	Semester Credits: 14 Semester Credits: 13								
L	MTOE 522	Cadet Com Vessel Asst Engr II	4			L	MTOE 523	Cadet Com Vessel Asst Engr III	2

License Credits (L in left column):

Total Credits:

2

46

73

A.A.S. in Maritime Technology with Deck License

Fall Semester

Freshman Year

L

L L

Spring Semester

MTO 103 Water Safety & Survival

NAVG 112

Gen Ed DEISJ Elective

MT 250 Ship Construction & Stability

Navigation I: Intro to Navigation

General Education Elective**

Gen Ed US His & Civic Eng Elective

Semester Credits:

	ENGL 101	Freshman English I	3	
	LEAD 101	Leadership/Maritime Experience	1	
	MATH 090	Intro to College Mathematics	4	
	MTO 120 ⁺	Primer of Towing	3	
L	NAUT 102	Intro to Vessel Ops & Seamanship	1	
L	MTO 112 ⁺	STCW Basic Training	2	
		General Education Elective**	3	
		Semester Credits:	17	

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

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

4

2

L	METE 201+	Meteorology for Mariners	3	
L	MT 321	Intro to Cargo Ops & Stability	3	
	MTO 211	Advanced Towing Operations	3	
L	NAUT 308	Nautical Operations: Safety	2	
L	NAUT 314	Rules of the Road	2	
L	NAUT 315	Intro to Integrated Bridge Systems	3	
		Semester Credits:	16	

MTOD 525 Cadet Com Vssl Ship Lim Ton II

MTOD 526 Cadet Com Vssl Ship Lim Ton III

:

L

L

L	MT 322+	Marine Cargo Operations	3	
L	MT 426 ⁺	Maritime Communications	3	
	MTO 212	Business of Towing	3	
L	MTOD 414 ⁺	Bridge Resource and Team Mgmt	3	
L	NAVG 312	Intgrtd Bridge Sys & Voyage Plannin	4	
L	MTO 412	Medical First Aid	1	
L	NAVG 212	Navigation II: Oceans (optional)***	4	

Semester Credits: 17 or 21

81

3

1

2

4

3

3

16

*** Required for Oceans Endorsement Only

	License Credits (L in left column):	51
License	Credits with Oceans Endorsement:	55
	Total Credits:	80

Total Credits with Oceans Endorsement:

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.

In compliance with SUNY General Education Framework requirements Courses in **bold type are typically limited to the semester shown. + Students must register for both lecture and laboratory or recitation (as applicable).

Sophomore Year