

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.

<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 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 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

		Lov	ver Div	vision -	Fres	hman Year
	CHEM 121	General Chemistry I	3			ENGI
	CHEM 122	General Chemistry I Laboratory	1			ENG
	ENGL 101	Freshman English I	3			ENGF
	ENGR 110	Intro to Engineering Practice	2			MATH
	LEAD 101	Leadership/Maritime Experience	1		L	NAUT
	MATH 101	Calculus I	4		L	NAVC
L	PS 103	Water Safety & Survival	1			PHYS
L	PS 112	STCW Basic Training	2			PHYS
		Semester Credits:	17			

Spring Semester

rreshinan Year						
	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			
	19.5					

MT 510 Summer Sea Term I 6 L

Lower Division - Sophomore Year

		Low		10101	
	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	

MT 521 Cadet Comm Vessel Shipping

MT 520 Summer Sea Term II L

OR L 6

Upper Division - Junior Year

			opper r	1 1 1 510
	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	

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

			Jpper I	JIVISIO
	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	

Semester Credits: 19

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	

	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			

USCG License Exam:

87

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

92 62 179

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.

Upper Division - Senior Year

	3		L	NAV
ite	18			

B.E. in Electrical Engineering with Engine License

Fall Semester

		La	wer Div	vision -	Fresh	ıman Year
	CHEM 121	General Chemistry I	3			ENGI
	CHEM 122	General Chemistry I Laboratory	1			ENG
	ENGL 101	Freshman English I	3			ENGF
	ENGR 110	Intro to Engineering Practice	2		L	ENGF
	LEAD 101	Leadership/Maritime Experience	1			MATH
	MATH 101	Calculus I	4			PHYS
L	PS 103	Water Safety & Survival	1			PHYS
L	PS 112	STCW Basic Training	2			
		Semester Credits	: 17			

Spring Semester

L I CS	iiiiaii 1 cai			
	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	

Semester Credits: 17.5

L	ENGR 510 Summer Sea Term I	6	Γ
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Lower Division - Sophomore Year

	ENGR 242	Statics	3		CHEM 212	Materials Science I	3	Ī
L	ENGR 503	Manufacturing Processess I	1		ENGR 290	Electrical Engineering I	3	I
L	ENGR 542	Ship Systems II	2		ENGR 292	Digital Electronics	4	I
	HUMN 201	World Literature & Culture I	3	L	ENGR 504	Manufacturing Processess II	1	I
	MATH 211	Calculus III	4	L	ENGR 541	Ship Systems I	2	I
	PHYS 201	Engineering Physics II	4		HUMN 202	World Literature & Culture II	3	I
	PHYS 203	Engineering Physics II Laboratory	0.5		MATH 212	Differential Equations	4	I
								I
		Semester Credits:	17.5			Semester Credits:	20	Ĩ

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

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

	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	

Semester Credits: 18

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			Upper Divis	sion - Senior Year
L	ENGR 371	Applied Naval Architecture	3	ENC
	ENGR 481	Communications Theory	3	ENG
	ENGR 484	Electric Drives	3	ENG
	ENGR 488	Electrical Design I	4	ENG
		Free Elective	3	
			1.6	

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: 84 75

Upper Division Credits:

License Credits (L in left column): 42

Total Credits: 159

B.E. in Electrical Engineering with Internship

Fall Semester

	Lo	wer Di	vision -	Fres	hman Year
CHEM 121	General Chemistry I	3			ENGI
CHEM 122	General Chemistry I Laboratory	1			ENGF
ENGL 101	Freshman English I	3			ENGF
ENGR 110	Intro to Engineering Practice	2			MATH
LEAD 101	Leadership/Maritime Experience	1			PHYS
MATH 101	Calculus I	4			PHYS
PE 100	Swimming and Lifetime Fitness	1			
· · · · · · · · · · · · · · · · · · ·	Semester Credits:	15			

Spring Semester

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				
	0	145				

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
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Upper	Division	-]	lunior	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	

- Junor Tear						
	ENGR 314	Engineering Economics	3			
	ENGR 384	Power Electronics	3			
	ENGR 395	Electric Machines	3			
	HIST 102	American Civilization II	3			
		Engineering Elective	3			
		C	15			

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	

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	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	

Semester Credits: 13

Upper Division Credits: 63	4
Opper Division Credits. 0.	3

Total Credits: 127

B.E. in Facilities Engineering with Engine License

Fall Semester

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

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Spring Semester

	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			

ENGR 510 Summer Sea Term I 6

		Lov	wer Div	isior	1 - Se	oph	omore Year
	ENGR 242	Statics	3				CHEM 2
L	ENGR 503	Manufacturing Processess I	1				or *ENGR
L	ENGR 542	Ship Systems II	2				ENGR 2
	HUMN 201	World Literature & Culture I	3				ENGR 2
	MATH 211	Calculus III	4			L	ENGR 5
	PHYS 201	Engineering Physics II	4			L	ENGR 5
	PHYS 203	Engineering Physics II Laboratory	0.5				HUMN 2
							MATH 2
		Semester Credits	: 17.5				

CHEWI 212	Materials Science I	3	
or *ENGR 347	Strength of Materials	S	
ENGR 244	Dynamics	3	
ENGR 290	Electrical Engineering I	3	
ENGR 504	Manufacturing Processess II	1	
ENGR 541	Ship Systems I	2	
HUMN 202	World Literature & Culture II	3	
MATH 212	Differential Equations	4	
	Semester Credits:	19	
	or *ENGR 347 ENGR 244 ENGR 290 ENGR 504 ENGR 541 HUMN 202	or*ENGR 347Strength of MaterialsENGR 244DynamicsENGR 290Electrical Engineering IENGR 504Manufacturing Processess IIENGR 541Ship Systems IHUMN 202World Literature & Culture IIMATH 212Differential Equations	or*ENGR 347Strength of Materials5ENGR 244Dynamics3ENGR 290Electrical Engineering I3ENGR 504Manufacturing Processess II1ENGR 541Ship Systems I2HUMN 202World Literature & Culture II3MATH 212Differential Equations4

L ENGR 520 Summer Sea Term II 6 OR L ENGR 521 Cadet Comm Vessel Shipping 6
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			Upper I	JIVISI
	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	s: 18	

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

ENGR 347	Strength of Materials	3	
or * CHEM 212	Materials Science I	ſ	
ENGR 351	Heat Transfer	3	
ENGR 354	Marine Engineering Design I	3	
ENGR 390	Electrical Engineering III	3	
ENGR 544	Ship Systems IV	4	
HIST 102	American Civilization II	3	
NAUT 308	Nautical Operations: Safety	2	
	Semester Credits:	21	
	or *CHEM 212 ENGR 351 ENGR 354 ENGR 390 ENGR 544 HIST 102	ENGR 347Strength of Materialsor *CHEM 212Materials Science IENGR 351Heat TransferENGR 354Marine Engineering Design IENGR 390Electrical Engineering IIIENGR 544Ship Systems IVHIST 102American Civilization IINAUT 308Nautical Operations: SafetySemester Credits:	or *CHEM 212Materials Science I3ENGR 351Heat Transfer3ENGR 354Marine Engineering Design I3ENGR 390Electrical Engineering III3ENGR 544Ship Systems IV4HIST 102American Civilization II3NAUT 308Nautical Operations: Safety2

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

Upper Division - Senior Year

	-	T. T	
ENGR 314	Engineering Economics	3	
ENGR 350	Analog Controls	3	
ENGR 371	Applied Naval Architecture	3	
ENGR 423	HVAC System Design	3	
ENGR 425	Facilities Engineering Design I	4	
	Semester Credits:	16	
	ENGR 350 ENGR 371 ENGR 423	ENGR 314 Engineering Economics ENGR 350 Analog Controls ENGR 371 Applied Naval Architecture ENGR 423 HVAC System Design ENGR 425 Facilities Engineering Design I Semester Credits:	ENGR 350Analog Controls3ENGR 371Applied Naval Architecture3ENGR 423HVAC System Design3ENGR 425Facilities Engineering Design I4

mor rear			
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	
	Samastar Cradits:	15	

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.

Upper Division -	Junior Year
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B.E. in Facilities Engineering with Internship

Fall Semester

-		Lo	wer Div	vision - 1	Fres	hman Year
	CHEM 121	General Chemistry I	3			ENGI
	CHEM 122	General Chemistry I Laboratory	1			ENGF
	ENGL 101	Freshman English I	3			ENGF
	ENGR 110	Intro to Engineering Practice	2			MATH
	LEAD 101	Leadership/Maritime Experience	1			PHYS
	MATH 101	Calculus I	4			PHYS
	PE 100	Swimming and Lifetime Fitness	1			
		Semester Credits:	15			

Spring Semester

Treshinan Tear		
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		CHEM	
HUMN 201	World Literature & Culture I	3		or *ENGR	
MATH 211	Calculus III	4		ENGR	
PHYS 201	Engineering Physics II	4	T E	ENGR	
PHYS 203	Engineering Physics II Laboratory	0.5		HUMN	
				MATH	
 -	Semester Credits:	14.5			

	CHEM 212	Materials Science I	3	
	or *ENGR 347	Strength of Materials	5	
	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		
U	pper D	livisi	on - Junior Year

	ENGR 341	Fluid Mechanics	3				ENGR 347	Strength of Materials	3	
	ENGR 344	Thermodynamics	3				or * CHEM 212	Materials Science I	3	
	ENGR 345	Engineering Statistical Analysis	3				ENGR 351	Heat Transfer	3	
	ENGR 380	Electrical Engineering II	3				ENGR 354	Marine Engineering Design I	3	
	HIST 101	American Civilization I	3				ENGR 390	Electrical Engineering III	3	
							HIST 102	American Civilization II	3	
· · · ·		Semester Credits:	15					Semester Credits:	15	

ENGR 536 Industrial Intern

Semester Creuns.	15	
nship II	3	
	-	

- 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	
	Engineering Elective	3	
	Free Elective	3	
	Semester Credits:	15	

Lower Division Credits:	63	
Upper Division Credits:		
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.

			Upper D	ivision
ENG	R 314	Engineering Economics	3	
ENG	R 350	Analog Controls	3	
ENG	R 423	HVAC System Design	3	
ENG	R 425	Facilities Engineering Design I	4	
		Engineering Elective	3	

Semester Credits: 16

B.E. in Marine Engineering with Engine License

Fall Semester

		Lov	ver Div	vision	- Fre	shm	an Year
	CHEM 121	General Chemistry I	3				ENGI
	CHEM 122	General Chemistry I Laboratory	1				ENGF
	ENGL 101	Freshman English I	3				ENG
	ENGR 110	Intro to Engineering Practice	2		L		ENGE
	LEAD 101	Leadership/Maritime Experience	1				MATH
	MATH 101	Calculus I	4				PHYS
L	PS 103	Water Safety & Survival	1				PHYS
L	PS 112	STCW Basic Training	2				
		Semester Credits:	17				

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Spring Semester

r res	reshman Year								
	ENGL 103 Freshman English II for Engineers								
	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 6

Lower Division - Sophomore Year

		LOW	er Div	18101	1-9	opn	omore rear			
	ENGR 242	Statics	3				CHEM 212	Materials Science I	2	
L	ENGR 503	Manufacturing Processess I	1				or *ENGR 347	Strength of Materials	3	
L	ENGR 542	Ship Systems II	2				ENGR 244	Dynamics	3	
	HUMN 201	World Literature & Culture I	3				ENGR 290	Electrical Engineering I	3	
	MATH 211	Calculus III	4			L	ENGR 504	Manufacturing Processess II	1	
	PHYS 201	Engineering Physics II	4			L	ENGR 541	Ship Systems I	2	
	PHYS 203	Engineering Physics II Laboratory	0.5				HUMN 202	World Literature & Culture II	3	
							MATH 212	Differential Equations	4	
		Semester Credits:	17.5		l			Semester Credits:	19	

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

		1	Upper D	ivision	ı - Ju	nior Year
	ENGR 341	Fluid Mechanics	3			ENC
	ENGR 344	Thermodynamics	3			ENG
	ENGR 347	Strength of Materials	3			ENC
	or * CHEM 212	Materials Science I	5			ENC
	ENGR 380	Electrical Engineering II	3			ENG
L	ENGR 543	Ship Systems III	3		L	ENG
L	NAUT 308	Nautical Operations: Safety	2			
		Semester Credits	s: 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	

	U	pper L	Divisi	ion -
ENGR 314	Engineering Economics	3		
ENGR 371	Applied Naval Architecture	3		
ENGR 423	HVAC System Design	3		
or ENGR 454	Vibrations	5		
ENGR 440	Marine Engineering Design II	3		
ENGR 453	Modern Concepts	3		
HIST 101	American Civilization I	3		
	Semester Credits:	18		

pper Division - Senior Year

BU	Schol Teal							
	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					

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.

B.E. in Mechanical Engineering with Engine License

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Fall Semester

		Lo	wer Di	visio	n - F	res	hmar
	CHEM 121	General Chemistry I	3		ſ		
	CHEM 122	General Chemistry I Laboratory	1				
	ENGL 101	Freshman English I	3				
	ENGR 110	Intro to Engineering Practice	2		[L	
	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				
					-		
L	ENGR 510	Summer Sea Term I	6		Ĩ		

Spring Semester

Freshman Year						
	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			

Semester Credits: 17.5

	Lower Division - Sophomore Year								
	ENGR 242	Statics	3			CHEM 212	Materials Science I	3	
L	ENGR 503	Manufacturing Processess I	1			or *ENGR 347	Strength of Materials	S	
L		Ship Systems II	2			ENGR 244	Dynamics	3	
	HUMN 201	World Literature & Culture I	3			ENGR 290	Electrical Engineering I	3	
	MATH 211	Calculus III	4		L	ENGR 504	Manufacturing Processess II	1	
	PHYS 201	Engineering Physics II	4		L	ENGR 541	Ship Systems I	2	
	PHYS 203	Engineering Physics II Laboratory	0.5			HUMN 202	World Literature & Culture II	3	
						MATH 212	Differential Equations	4	
		Semester Credits:	17.5				Semester Credits:	19	

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

		l	Jpper D	Divisio
	ENGR 344	Thermodynamics	3	
	ENGR 347	Strength of Materials	3	
	or * CHEM 212	Materials Science I	5	
	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
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		-	rr** -	
	ENGR 348	Strength of Materials Laboratory	1	
	ENGR 354	Marine Engineering Design I	3	
L	ENGR 371	71 Applied Naval Architecture		
	ENGR 418	Mechanical Engr Design I	4	
	ENGR 454	Vibrations	3	
		Engineering Elective	3	
		Semester Credits:	17	

. 96	mor rear			
	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	
			17	

Semester Credits: 17

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

* 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.

T Divici on - Junior Year

B.E. in Mechanical Engineering with Internship

Fall Semester

	Le	ower Div	ision - l	Fresh	nman Year
CHEM 121	General Chemistry I	3			ENGI
CHEM 122	General Chemistry I Laboratory	1			ENGF
ENGL 101	Freshman English I	3			ENGF
ENGR 110	Intro to Engineering Practice	2			MATH
LEAD 101	Leadership/Maritime Experience	1			PHYS
MATH 101	Calculus I	4			PHYS
PE 100	Swimming and Lifetime Fitness	1			
	Semester Credits	s: 15			

Spring Semester

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	
	Somaaton Cradita	145	

Semester Credits: 14.5

ENGR 242	Statics	3	
ENGR 503	Manufacturing Processess 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	
or *ENGR 347	Strength of Materials	S	
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		ļ				
U	pper D	Divisi	ion ·	- Junior Year			
	3		I	ENGR 312	Machine Design	3	
	3		I	ENGR 341	Fluid Mechanics	3	
	3		Ī	ENGR 345	Engineering Statistical Analysis	3	
	3		Ī	ENGR 351	Heat Transfer	3	
	3		Ī	ENGR 390	Electrical Engineering III	3	
	3		Ī				
			T				

Semester Credits: 15

ENGR 536	Industrial Internship II

ENGR 380 Electrical Engineering II

HIST 101 American Civilization I

ENGR 314 Engineering Economics

ENGR 344 Thermodynamics

or * CHEM 212 Materials Science I

ENGR 347 Strength of Materials

3

3

15

Semester Credits:

11	
3	
4	
3	
3	
3	
ts: 16	
	3 4 3 3 3 ts: 16

U	pper I	Divisio	Senior Year			
	3		ENGR 348	Strength of Materials Laboratory	1	
	4		ENGR 349	Transport Processes Laboratory	1	
	3		ENGR 419	Mechanical Engr Design II	4	
	3		HIST 102	American Civilization II	3	
	3			Engineering Elective	3	
				Free Elective	3	
its:	16			Semester Credits:	15	

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

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

B.E. in Naval Architecture with Deck License

Fall Semester

		Lov	ver Di	vision	1 - F	res	hman Year
	CHEM 121	General Chemistry I	3				ENGI
	CHEM 122	General Chemistry I Laboratory	1				ENG
	ENGL 101	Freshman English I	3				ENG
	ENGR 110	Intro to Engineering Practice	2				MATH
	LEAD 101	Leadership/Maritime Experience	1				PHYS
	MATH 101	Calculus I	4				PHYS
L	PS 103	Water Safety & Survival	1			L	NAUT
L	PS 112	STCW Basic Training	2			L	NAVO
		Semester Credits:	17				

Spring Semester

I I CS	iiiiaii 1 cai			
	ENGL 103	Freshman English II for Engineers	3	
	ENGR 100	Engineering Graphics	1	
	ENGR 120	Programming for Engineers	2	
	MATH 102	Calculus II	4	
		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	

MT 510 Summer Sea Term I 6

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Lower Division - Sophomore Year

				10101
	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	
	or *ENGR 347	Strength of Materials	ſ	
	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	

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

		τ	U pper D	<u>ivisi</u> on	- Ju	nior Year
	ENGR 314	Engineering Economics	3			ENG
	ENGR 347	Strength of Materials	3			ENG
	or * CHEM 212	Materials Science I	5			ENG
L	ENGR 363	Ship Statics	3			ENC
	ENGR 365	Ship Form and Graphics	3		L	NA
	ENGR 380	Electrical Engineering II	3		L	NAV
L	NAUT 314	Rules of the Road	2			
L	NAUT 315	Collision Avoidance	3			
		Semester Credits:	: 20			

MT 530 Summer Sea Term III

PS 412 Medical Care Provider

MT 412 Deck License Seminar

Free Elective

MT 426 Maritime Communications

NAUT 416 Bridge Resource Mgmt (Unltd Lic)

	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	

ENGR 341 Fluid Mechanics

ENCD 244 Thermoderness

Lower Division Credits:

Upper Division Credits:

Total Credits:

License Credits (L in left column):

3

86

95

63

181

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

		e	pper r	 		nor rear			
	ENGR 345	Engineering Statistical Analysis	3	Ī		ENGR 348	Strength of Materials Laboratory	1	
	ENGR 461	Ship Design II	4			ENGR 354	Marine Engineering Design I	3	
	ENGR 462	Ship Resistance and Propulsion	3			ENGR 471	Ship Design III	4	
	HIST 101	American Civilization I	3			ENGR 473	Ship Dynamics	3	
Ι	. MT 321	Intro to Cargo Ops & Stability	3		L	MT 322	Marine Cargo Operations	3	
							Engineering Elective	3	
		Semester Credits:	16				Semester Credits:	17	
				-					_
		9th Semester		_			USCG License Exam:		
	HIST 102	American Civilization II	3	I					-

Upper	Division	- Senior	Year

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3

3

3

16

Semester 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.

B.E. in Naval Architecture with Engine License

Fall Semester

		Lov	ver Dr	visior
	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	

L

Spring Semester

visio	n - I	Fres	shman Year			
			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	
		vision - 1	vision - Free	ENGR 100 ENGR 120 L ENGR 540 MATH 102 PHYS 102	ENGL 103 Freshman English II for Engineers ENGR 100 Engineering Graphics ENGR 120 Programming for Engineers L ENGR 540 MATH 102 Calculus II PHYS 102 Engineering Physics I PHYS 104 Engineering Physics I Laboratory	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

ENGR 510 Summer Sea Term I 6

Lower Division - Sophomore Year

		LUII		10101	·r	omore rear			
	ENGR 242	Statics	3			CHEM 212	Materials Science I	3	
L	ENGR 503	Manufacturing Processess I	1			or *ENGR 347	Strength of Materials	3	
L	ENGR 542	Ship Systems II	2			ENGR 244	Dynamics	3	
	HUMN 201	World Literature & Culture I	3			ENGR 290	Electrical Engineering I	3	
	MATH 211	Calculus III	4		L	ENGR 504	Manufacturing Processess II	1	
	PHYS 201	Engineering Physics II	4		L	ENGR 541	Ship Systems I	2	
	PHYS 203	Engineering Physics II Laboratory	0.5			HUMN 202	World Literature & Culture II	3	
						MATH 212	Differential Equations	4	
		Semester Credits:	17.5				Semester Credits:	19	

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

		t	J pper D	Divisio
	ENGR 314	Engineering Economics	3	
	ENGR 347	Strength of Materials	3	
	or * CHEM 212	Materials Science I	3	
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	

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	-	PP** -	
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	

50	noi i cai			
	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	
		Composition Condition	17	

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.

• • ion - Junior Year

18	
0	
5	

B.E. in Naval Architecture with Internship

Fall Semester

	La	wer Div	ision -	Fres	hman Year
CHEM 121	General Chemistry I	3			ENGI
CHEM 122	General Chemistry I Laboratory	1			ENGR
ENGL 101	Freshman English I	3			ENG
ENGR 110	Intro to Engineering Practice	2			MATH
LEAD 101	Leadership/Maritime Experience	1			PHYS
MATH 101	Calculus I	4			PHYS
PE 100	Swimming and Lifetime Fitness	1			
	Semester Credits	: 15			

Spring Semester

3	
1	
2	
4	
4	
0.5	
14.5	
	4 4 0.5

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	

ENGR 526 Industrial Internship I 3

CHEM 212	Materials Science I	3	
or *ENGR 347	Strength of Materials	2	
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	

Upper Division - Junior Year

	-		 -	 			
ENGR 314	Engineering Economics	3		ENGR 341	Fluid Mechanics	3	
ENGR 347	Strength of Materials	2		ENGR 344	Thermodynamics	3	
or * CHEM 212	Materials Science I	S		ENGR 348	Strength of Materials Laboratory	1	
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	Electrical Engineering II	3					
	Semester Credits:	15			Semester Credits:	15	
			-				

ENGR 536 Industrial Internship II

3

		Upper Di	ivision	- Sei	nior Year
ENGR 345	Engineering Statistical Analysis	3			ENG
ENGR 461	Ship Design II	4			ENG
ENGR 462	Ship Resistance and Propulsion	3			ENG
ENGR 472	Sailboat Principles & Design	3			ENG
HIST 101	American Civilization I	3			HI
	Semester Credit	s: 16			

 -	 -		
		ENGR 354	Marine Engineering Des
		ENGR 471	Ship Design III
		ENGR 473	Ship Dynamics

sign I 3 4 3 ENGR 476 Power Boat Principles & Design 3 HIST 102 American Civilization II 3 16 Semester Credits:

Lower

Division Credits:	63
Division Credits:	65
Total Credits:	128

Upper

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

B.S. in International Transportation and Trade with Internship

Fall Semester

	LUV		151
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

					1 8					
Lower Division - Freshman Year										
	1			ENGL 102	Freshman English II	3				
	3			GBEC 121	Macroeconomics	3				
	3			GBMG 345	Fundamentals of Marketing	3				
e	1			HIST 101	American Civilization I	3				
	4			MATH 251	Statistics	3				
	4									
	3									
diter	15				Samastar Cradita	15				

Semester Credits: 15

Lower	Division	- Sophomore Year	•

			_	1			
ENGL 452	Technical Writing	3		GBAC 31	5 Managerial Accounting	3	
GBAC 311	Financial Accounting	3		GBLW 43	1 Business Law	3	
GBEC 122	Microeconomics	3		HUMN 20	2 World Literature & Culture II	3	
HIST 102	American Civilization II	3			Free Elective	3	
HUMN 201	World Literature & Culture I	3	Γ		LAS Elective	3	
	Semester Credits:	15			Semester Credits:	15	

	\mathbf{U}_{l}	pper I	Divisi	on •	· Ju	nior 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 Exp.	6		OR		GBUS 526	ITT Study Abroad	6	

Upper Division - Senior Year

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

Semester Credits:

Lower Division Credits: Upper Division Credits: Total Credits:

:	60	
:	64	
:	124	

International Studies Elective

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

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 401-02 Topics in European Civilization I-II	GBTT 460 Prin. of Global Supply Chain Security
HIST 418 Hist of American Foreign Policy	GBUS 526 ITT Study Abroad*
HIST 421 Vietnam and America	MT 408 International Safety Management
HIST 425 History of Technology	MT 435 Maritime Security
HIST 426 Twentieth Century Technology	* Other study abroad courses
NVSC 102 Sea Power and Maritime Affairs	to be evaluated by Dept Chair
NVSC 311 Evolution of Warfare	
Foreign language courses	

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

Fall Semester

		LOW	er Div	/1S10
	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	

MT 510 Summer Sea Term I

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BIO 3

GEOL 3

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MT 4

MT 4

Spring Semester

						1 8		
Low	er Div	visio	n - I	res	hman Year			
	4		Ī		BIO 202	General Biology II	4	
	1		I		ENGL 102	Freshman English II	3	
	3		I		MATH 112	Applied Calc II (or MATH 102)	3	
	3		I	L	NAUT 102	IntroVesselOps & Seamanship	1	
e	1		I	L	NAVG 112	Terrestrial Navigation	4	
	4		I		OCEA 101	General Oceanography	3	
	2		I		OCEA 102	General Oceanography Lab	1	
			I	L	PS 103	Water Safety & Survival	1	
dits:	18		I			Semester Credits:	20	

Lower Division - Sonhomore Year

6

		LOW		15101	- 0	opine	linore real		
	CHEM 121	General Chemistry I	3				CHEM 123	General Chemistry II	3
	CHEM 122	General Chemistry I Laboratory	1				CHEM 124	General Chemistry II Laboratory	1
	HIST 101	American Civilization I	3				HIST 102	American Civilization II	3
	HUMN 201	World Literature & Culture I	3				HUMN 202	World Literature & Culture II	3
L	METE 201	Meteorology for Mariners	3			L	NAVG 212	Celestial Navigation	4
L	MT 250	Ship Construction & Stability	2				PHYS 214	General Physics II	4
	PHYS 211	General Physics I	3				PHYS 216	General Physics II Lab	0.5
	PHYS 213	General Physics I Lab	0.5						
		Semester Credits:	18.5					Semester Credits:	18.5

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

			Upper D	ivision	- Jur	nior Year
	BIO 210	Ecology	3		(1)	B
(2)	BIO 315	Marine Biology	3			CHE
(2)	CHEM 220	Environmental Chemistry	3			CHE
	MATH 251	Statistics	3		L	Ν
L	MT 321	Intro to Cargo Ops & Stability	3		L	NA
L	NAUT 314	Rules of the Road	2		L	NAV
L	NAUT 315	Collision Avoidance	3			
		Semester Credits	s: 20			

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

(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	

320	Invertebrate Zoology	4	
51	Field Methods in Environ. Science	4	
601	General Geology	3	
12	Deck License Seminar	4	
26	Maritime Communications	3	

Semester Credits:

18

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

USCG License Exam:

Lower Division Credits:

Upper Division Credits:

License Credits (L in left column):

Total Credits: 168

87

81

62

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.

Upper Division - Senior Year

3		C
3		C

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

Fall Semester

	Lo	wer Div	er Division - Freshman Year		
BIO 201	General Biology I	4			BIC
CS 101	Computer Laboratory	1			ENGI
ENGL 101	Freshman English I	3			MATE
ES 101	Intro to Environmental Science	3			OCEA
LEAD 101	Leadership/Maritime Experience	1			OCEA
MATH 111	Applied Calc I (or MATH 101)	4			PE
	Semester Credits:	16			

Spring Semester

 i commani i car				
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:				

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	

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				
	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		(2)	BIO 416	Fisheries Science
	ES 451	Field Methods in Environ. Science	4			ES 420	Environmental Pollution
(1)	GEOL 301	General Geology	3			GBLW 435	Environmental Law & Policy
		Free Elective	3			OCEA 402	Estuaries & Coastal Processes
							MES Elective
		Semester Credits:	14	-			Semester Credits:

Lower Division Credits: 62 Upper Division Credits: 60

Total Credits: 122

15

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

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

	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	

MT 510 Summer Sea Term I

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Spring Semester

Low	er Di	visio	n - I	Fres	hman Year			
	4		Ĩ		BIO 202	General Biology II	4	
	1		Ĩ		ENGL 102	Freshman English II	3	
	3		Ĩ		MATH 112	Applied Calc II (or MATH 102)	3	
	3		Ĩ	L	NAUT 102	IntroVesselOps & Seamanship	1	
e	1		I	L	NAVG 112	Terrestrial Navigation	4	
	4		Ĩ		OCEA 101	General Oceanography	3	
	2		Ĩ		OCEA 102	General Oceanography Lab	1	
			l	L	PS 103	Water Safety & Survival	1	
dits:	18		Ĩ			Semester Credits:	20	

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_	Lower Division - Sophomore Year											
	CHEM 121	General Chemistry I	3				CHEM 123	General Chemistry II	3			
	CHEM 122	General Chemistry I Laboratory	1		CHEM 124 General Chemistry II Laboratory		1					
	HIST 101 American Civilization I		3				HIST 102	American Civilization II	3			
	HUMN 201 World Literature & Culture I		3				HUMN 202	World Literature & Culture II	3			
L	METE 201	Meteorology for Mariners	3			L	NAVG 212	Celestial Navigation	4			
L	MT 250	Ship Construction & Stability	2				PHYS 214	General Physics II	4			
	PHYS 211	General Physics I	3				PHYS 216	General Physics II Lab	0.5			
	PHYS 213	General Physics I Lab	0.5									
	Semester Credits: 18.5 Semester Credits: 18.5							18.5				

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

			Upper L	Divisi
	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	

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

Jum				
	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	

		U	pper I	Divisi	on -	Sei	nior Year
	ES 451	Field Methods in Environ. Science	4				
(1)	GEOL 301	General Geology	3				GBI
(1)	METE 350	Synoptic Meteorology	4		((2)	ME
L	MT 412	Deck License Seminar	4			L	NA
L	MT 426	Maritime Communications	3				OC
		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	

Semester Credits: 18

USCG License Exam:	· · · · ·	I
Lower Division Credits:	87	Ī
Upper Division Credits:	82	Ī
License Credits (L in left column):	62	Ī
Total Credits:	169	Ī

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.

T **Division - Junior Year**

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

Fall Semester

	Lov	ver Div	vision	- Fres	shman Year
BIO 201	General Biology I	4			BIC
CS 101	Computer Laboratory	1			ENGI
ENGL 101	Freshman English I	3			MATH
ES 101	Intro to Environmental Science	3			OCEA
LEAD 101	Leadership/Maritime Experience	1			OCEA
MATH 111	Applied Calc I (or MATH 101)	4			PI
	Semester Credits:	16			

Spring Semester

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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	CHEM 121 General Chemistry I		
CHEM 122	CHEM 122 General Chemistry I Laboratory		
HIST 101	HIST 101 American Civilization I		
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:	165	

Semester Credits: 16.5

CHEM 123	EM 123 General Chemistry II		
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	

CHEM 222 Organic Chemistry Laboratory

OCEA 416 Marine Biogeochemistry Lab

OCEA 415 Marine Biogeochemistry

MES Elective

Free Elective

CHEM 221 Organic Chemistry

Upper Division - Junior Year

(1) (1)

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

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

Upper Division - Senior Year

-			rr ·	
	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	
			1.7	

Semester Credits: 15

Semester Credits:

3

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3

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

B.S. in Marine Operations with Deck License

Fall Semester

-			ision -	- Freshn	an Year		
	CS 101 Computer Laboratory	1				Freshman English II	3
	ENGL 101 Freshman English I	3			HIST 101	American Civilization I	3
	GBUS 100 Intro to Business & Economics	3			MATH 251	Statistics	3
	LEAD 101 Leadership/Maritime Experience	1		L	MT 250	Ship Construction & Stability	2
	MATH 111 Applied Calculus I	4		L		IntroVesselOps & Seamanship	1
	PS 103 Water Safety & Survival	1		L		Terrestrial Navigation	4
	PS 112 STCW Basic Training	2			10110112	Torrosului Pariguion	
-	Semester Credits					Semester Credits:	16
	Semister creats	. 15	1			Semester Credits.	10
L	MT 510 Summer Sea Term I	6					
		wer Divis	sion -	Sophon	ore Year		-
	GBEC 121 Macroeconomics	3			ENGR 540	Intro to Ship Systems	3
	HUMN 201 World Literature & Culture I	3			GBEC 122	Microeconomics	3
	METE 201 Meteorology for Mariners	3				American Civilization II	3
1	MT 435 Maritime Security	3				World Literature & Culture II	3
-	PHYS 211 General Physics I	3		L		Rules of the Road	2
	PHYS 213 General Physics I Lab	0.5		L		Celestial Navigation	4
+		0.3	\rightarrow		INAVU 212	Celesual Ivavigation	4
	Semester Credits	: 15.5				Semester Credits:	18
		L					
-							1
L	MT 520 Summer Sea Term II	6	0	RL	MT 521	Cadet Comm Vessel Shipping	6
Ĺ		4 - 4	!			Cadet Comm Vessel Shipping	6
		J pper D i	!		or Year		<u> </u>
_	ENGL 452 Technical Writing	Upper Di	!		r Year CHEM 100	Introductory Chemistry	3
	ENGL 452 Technical Writing GBTT 251 Transportation Systems	Upper Di 3 3	!		r Year CHEM 100 ENGR 541	Introductory Chemistry Ship Systems I	3 2
	ENGL 452 Technical Writing GBTT 251 Transportation Systems MT 212 Ship Management	Upper Di 3 3 3	!		r Year CHEM 100 ENGR 541 GBTT 252	Introductory Chemistry Ship Systems I Business of Shipping	3 2 3
	ENGL 452 Technical Writing GBTT 251 Transportation Systems	Upper Di 3 3	!		r Year CHEM 100 ENGR 541 GBTT 252	Introductory Chemistry Ship Systems I	3 2
	ENGL 452 Technical Writing GBTT 251 Transportation Systems MT 212 Ship Management	Upper Di 3 3 3	!	n - Junio	r Year CHEM 100 ENGR 541 GBTT 252 MT 322	Introductory Chemistry Ship Systems I Business of Shipping	3 2 3
	ENGL 452Technical WritingGBTT 251Transportation SystemsMT 212Ship ManagementMT 321Intro to Cargo Ops & StabilityNAUT 315Collision Avoidance	Upper Di 3 3 3 3	!	n - Junio	r Year CHEM 100 ENGR 541 GBTT 252 MT 322 MT 404	Introductory Chemistry Ship Systems I Business of Shipping Marine Cargo Operations Environmental Management	3 2 3 3
	ENGL 452 Technical Writing GBTT 251 Transportation Systems MT 212 Ship Management MT 321 Intro to Cargo Ops & Stability	Upper Di 3 3 3 3 3 3 3	!	L	r Year CHEM 100 ENGR 541 GBTT 252 MT 322 MT 404	Introductory Chemistry Ship Systems I Business of Shipping Marine Cargo Operations	3 2 3 3 3
	ENGL 452Technical WritingGBTT 251Transportation SystemsMT 212Ship ManagementMT 321Intro to Cargo Ops & StabilityNAUT 315Collision AvoidanceNAUT 308Nautical Operations: Safety	Upper Di 3 3 3 3 3 3 2	!	L	r Year CHEM 100 ENGR 541 GBTT 252 MT 322 MT 404	Introductory Chemistry Ship Systems I Business of Shipping Marine Cargo Operations Environmental Management	3 2 3 3 3
	ENGL 452Technical WritingGBTT 251Transportation SystemsMT 212Ship ManagementMT 321Intro to Cargo Ops & StabilityNAUT 315Collision AvoidanceNAUT 308Nautical Operations: Safety	Upper Di 3 3 3 3 3 2 3 4 3	!	L	r Year CHEM 100 ENGR 541 GBTT 252 MT 322 MT 404	Introductory Chemistry Ship Systems I Business of Shipping Marine Cargo Operations Environmental Management	3 2 3 3 3
	ENGL 452 Technical Writing GBTT 251 Transportation Systems MT 212 Ship Management MT 321 Intro to Cargo Ops & Stability NAUT 315 Collision Avoidance NAUT 308 Nautical Operations: Safety Humanities elective Semester Credits	Upper Di 3 3 3 3 3 2 3 : 20	!	L	r Year CHEM 100 ENGR 541 GBTT 252 MT 322 MT 404	Introductory Chemistry Ship Systems I Business of Shipping Marine Cargo Operations Environmental Management Electr Nav & Voyage Planning	3 2 3 3 3 4
	ENGL 452 Technical Writing GBTT 251 Transportation Systems MT 212 Ship Management MT 321 Intro to Cargo Ops & Stability NAUT 315 Collision Avoidance NAUT 308 Nautical Operations: Safety Humanities elective Semester Credits MT 530 Summer Sea Term III	Upper Di 3 3 3 3 3 2 3 4 3	!	L	r Year CHEM 100 ENGR 541 GBTT 252 MT 322 MT 404	Introductory Chemistry Ship Systems I Business of Shipping Marine Cargo Operations Environmental Management Electr Nav & Voyage Planning	3 2 3 3 3 4
	ENGL 452 Technical Writing GBTT 251 Transportation Systems MT 212 Ship Management MT 321 Intro to Cargo Ops & Stability NAUT 315 Collision Avoidance NAUT 308 Nautical Operations: Safety Humanities elective Semester Credits	Upper Di 3 3 3 3 2 3 2 3 2 3 2 3 5	!	L	r Year CHEM 100 ENGR 541 GBTT 252 MT 322 MT 404	Introductory Chemistry Ship Systems I Business of Shipping Marine Cargo Operations Environmental Management Electr Nav & Voyage Planning	3 2 3 3 3 4
	ENGL 452 Technical Writing GBTT 251 Transportation Systems MT 212 Ship Management MT 321 Intro to Cargo Ops & Stability NAUT 315 Collision Avoidance NAUT 308 Nautical Operations: Safety Humanities elective Semester Credits MT 530 Summer Sea Term III PS 412 Medical Care Provider	Upper Di 3 3 3 3 2 3 2 3 2 3 2 3 5 1 Upper Di		n - Junio	r Year CHEM 100 ENGR 541 GBTT 252 MT 322 MT 404 NAVG 312	Introductory Chemistry Ship Systems I Business of Shipping Marine Cargo Operations Environmental Management Electr Nav & Voyage Planning Semester Credits:	3 2 3 3 4 18
	ENGL 452 Technical Writing GBTT 251 Transportation Systems MT 212 Ship Management MT 321 Intro to Cargo Ops & Stability NAUT 315 Collision Avoidance NAUT 308 Nautical Operations: Safety Humanities elective Semester Credits MT 530 Summer Sea Term III PS 412 Medical Care Provider	Upper Di 3 3 3 3 2 3 2 3 2 3 2 3 2 3 2 1 Upper Di 3		n - Junio	r Year CHEM 100 ENGR 541 GBTT 252 MT 322 MT 404 NAVG 312	Introductory Chemistry Ship Systems I Business of Shipping Marine Cargo Operations Environmental Management Electr Nav & Voyage Planning Semester Credits: Environmental Law & Policy	3 2 3 3 4 18
	ENGL 452 Technical Writing GBTT 251 Transportation Systems MT 212 Ship Management MT 321 Intro to Cargo Ops & Stability NAUT 315 Collision Avoidance NAUT 308 Nautical Operations: Safety Humanities elective Semester Credits MT 530 Summer Sea Term III PS 412 Medical Care Provider	Upper Di 3 3 3 3 2 3 2 3 2 3 2 3 5 1 Upper Di		n - Junio	r Year CHEM 100 ENGR 541 GBTT 252 MT 322 MT 404 NAVG 312 r Year GBLW 435 MT 408	Introductory Chemistry Ship Systems I Business of Shipping Marine Cargo Operations Environmental Management Electr Nav & Voyage Planning Semester Credits: Environmental Law & Policy International Safety Mgt	3 2 3 3 4 18
	ENGL 452 Technical Writing GBTT 251 Transportation Systems MT 212 Ship Management MT 321 Intro to Cargo Ops & Stability NAUT 315 Collision Avoidance NAUT 308 Nautical Operations: Safety Humanities elective Semester Credits MT 530 Summer Sea Term III PS 412 Medical Care Provider	Upper Di 3 3 3 3 2 3 2 3 2 3 2 3 2 3 2 1 Upper Di 3		n - Junio	r Year CHEM 100 ENGR 541 GBTT 252 MT 322 MT 404 NAVG 312 r Year GBLW 435 MT 408	Introductory Chemistry Ship Systems I Business of Shipping Marine Cargo Operations Environmental Management Electr Nav & Voyage Planning Semester Credits: Environmental Law & Policy	3 2 3 3 4 18
	ENGL 452 Technical Writing GBTT 251 Transportation Systems MT 212 Ship Management MT 321 Intro to Cargo Ops & Stability NAUT 315 Collision Avoidance NAUT 308 Nautical Operations: Safety Humanities elective Semester Credits MT 530 Summer Sea Term III PS 412 Medical Care Provider GBTT 457 Port and Terminal Operations GBUS 300 International Business MT 412 Deck License Seminar	Upper Di 3 3 3 3 2 3 2 3 2 3 5 1 Upper Di 3 3 3		n - Junio	r Year CHEM 100 ENGR 541 GBTT 252 MT 322 MT 404 NAVG 312 r Year GBLW 435 MT 408 NAUT 416	Introductory Chemistry Ship Systems I Business of Shipping Marine Cargo Operations Environmental Management Electr Nav & Voyage Planning Semester Credits: Environmental Law & Policy International Safety Mgt	3 2 3 3 4 18 3 3 3
	ENGL 452 Technical Writing GBTT 251 Transportation Systems MT 212 Ship Management MT 321 Intro to Cargo Ops & Stability NAUT 315 Collision Avoidance NAUT 308 Nautical Operations: Safety Humanities elective Semester Credits MT 530 Summer Sea Term III PS 412 Medical Care Provider GBTT 457 Port and Terminal Operations GBUS 300 International Business MT 412 Deck License Seminar MT 426 Maritime Communications	Upper Di 3 3 3 3 3 3 2 3 3 2 3 3 5 1 Upper Di 3 3 4 3		n - Junio	r Year CHEM 100 ENGR 541 GBTT 252 MT 322 MT 404 NAVG 312 r Year GBLW 435 MT 408 NAUT 416	Introductory Chemistry Ship Systems I Business of Shipping Marine Cargo Operations Environmental Management Electr Nav & Voyage Planning Semester Credits: Environmental Law & Policy International Safety Mgt Bridge Resource Mgmt (Unltd Lic.) Humanities Elective	3 2 3 3 4 4 18 3 3 3 3 3 3
	ENGL 452 Technical Writing GBTT 251 Transportation Systems MT 212 Ship Management MT 321 Intro to Cargo Ops & Stability NAUT 315 Collision Avoidance NAUT 308 Nautical Operations: Safety Humanities elective Semester Credits MT 530 Summer Sea Term III PS 412 Medical Care Provider GBTT 457 Port and Terminal Operations GBUS 300 International Business MT 412 Deck License Seminar	Upper Di 3 3 3 3 3 2 3 3 2 3 3 5 1 Upper Di 3 3 4		n - Junio	r Year CHEM 100 ENGR 541 GBTT 252 MT 322 MT 404 NAVG 312 r Year GBLW 435 MT 408 NAUT 416	Introductory Chemistry Ship Systems I Business of Shipping Marine Cargo Operations Environmental Management Electr Nav & Voyage Planning Semester Credits: Environmental Law & Policy International Safety Mgt Bridge Resource Mgmt (Unltd Lic.)	3 2 3 3 4 4 18 3 3 3 3 3

Spring Semester

USCG License Exam:

Lower Division Credits: 76.5 Upper Division Credits: License Credits (L in left column): Total Credits: 154.5

B.S. in Marine Operations with Engine License

Fall Semester

_		Lo	wer Div	vision
	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	

Spring Semester

	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

6

15

Semester Credits:

	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	

րո	Uniore rear			
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	

ENGR 520 Summer Sea Term II

ENGR 242 Statics

ENGR 243 Transport Processes

ENGR 543 Ship Systems III

ENGR 290 Electrical Engineering I

GBTT 251 Transportation Systems

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OR L ENGR 521 Cadet Comm Vessel Shipping

U	pper I	Divisi	ion ·	- Ju	nior Year			
	3		I	L	ENGR 371	Applied Naval Architecture	3	
	3		I		ENGR 380	Electrical Engineering II	3	
	3			L	ENGR 544	Ship Systems IV	4	
	3		I		GBTT 252	Business of Shipping	3	
	3		I		MT 212	Ship Management	3	
				L	NAUT 308	Nautical Operations: Safety	2	
			I					
4	15		T			C	10	

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

	U	pper n	1,191
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	

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	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:

6

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

77 69 42 Total Credits: 146

B.S. in Marine Transportation with Deck License

Spring Semester

Fall Semester

		Lov	ver Di	visio	n - I	Fres	hman Year		
	CS 101	Computer Laboratory	1		Ī		ENGL 102	Freshman English II	3
		Freshman English I	3		Ì		HIST 101	American Civilization I	3
	GBUS 100	Intro to Business & Economics	3		1		MATH 251	Statistics	3
	LEAD 101	Leadership/Maritime Experience	1		1	L	MT 250	Ship Construction & Stability	2
	MATH 111	Applied Calculus I	4		1	L	NAUT 102	IntroVesselOps & Seamanship	1
L	PS 103	Water Safety & Survival	1		1	L	NAVG 112	Terrestrial Navigation	4
L		STCW Basic Training	2		Î			<u>_</u>	
		Semester Credits:	15		1			Semester Credits:	16
L	MT 510	Summer Sea Term I	6		Ţ				
<u> </u>					1		•••		
	CDEC 121	Low	er Div 3	visior	1 - S T	oph	omore Year	Financial Accounting	3
		World Literature & Culture I	3	-	+			Microeconomics	
T			3	<u> </u>	-			American Civilization II	3
L		Meteorology for Mariners	3		+			World Literature & Culture II	3
		International Safety Mgt	3	<u> </u>	-	T			
		Maritime Security	3		ł	L		Rules of the Road Celestial Navigation	2 4
		General Physics I	0.5		ł	L	NAVG 212	Celestial Navigation	4
	PHYS 213	General Physics I Lab	0.5		ł				
		Compostor Creditor	105	-	+			Contractor Creditor	10
		Semester Credits:	18.5		1			Semester Credits:	18
L	MT 520	Summer Sea Term II	6		OR	L	MT 521	Cadet Comm Vessel Shipping	6
		T	nner I	Divisi	ion -	. Ju	nior Year		
	ENGL 452	Technical Writing	3		Ī	50		International Economics & Finance	3
		Business Law	3	1	1			Business of Shipping	3
		Organizational Management	3		1	L		Marine Cargo Operations	3
		Transportation Systems	3					Environmental Management	3
L		Intro to Cargo Ops & Stability	3			L		Nautical Operations: Safety	2
L		Collision Avoidance	3		Ì	L		Electr Nav & Voyage Planning	4
			-		1				
<u> </u>		Semester Credits:	18		1			Semester Credits:	18
	N/T 520	Summer Sea Term III	~	1	T				
L		Medical Care Provider	5		ł				
L	PS 412	Medical Care Provider	1		1				
		U	pper I	Divis	ion ·	- Sei	nior Year		
	GBUS 300	International Business	3				GBEC 429	Seminar: Transport. Economics	2
L	MT 412	Deck License Seminar	4]		or GBMG 440	Seminar: Strategy and Policy	3
L	MT 426	Maritime Communications	3		I			Operations Research	3
		Humanities Elective	3	1	I	L	NAUT 416	Bridge Resource Mgmt (Unltd Lic.)	3
		LAS Elective	3		Ī			Humanities Elective	3
					I			LAS Elective	3
				1]			LAS Elective	3
· · ·		Semester Credits:	16		I	1		Semester Credits:	18
								USCG License Exam:	
									۱ ۲
								Lower Division Credits:	79.5
								Upper Division Credite	76

Lower Division Credits: 79.5 Upper Division Credits: 76 License Credits (L in left column): 62 Total Credits: 155.5

B.S. in Maritime Studies with Deck License

Fall Semester

		Fall Semester			Encal	Spring Semester	
Ŀт	CG 101			sion - I	r resi	hman Year	
		Computer Laboratory Freshman English I	3			ENGL 102 Freshman English II ES 101 Intro to Environmental Science	3
		Intro to Business & Economics			T	METE 201 Meteorology for Mariners	3
			3		L L	NAUT 102 IntroVesselOps & Seamanship	
		Leadership/Maritime Experience	1	_			1
Ţ		Applied Calculus I	4		L	NAVG 112 Terrestrial Navigation	4
L		Water Safety & Survival	1			NVSC 102 Sea Power & Maritime Affairs	3
L	PS 112	STCW Basic Training	2			Connector Constitue	17
		Semester Credits:	15			Semester Credits:	17
L	MT 510	Summer Sea Term I	6				
			er Divis	sion - S	opho	omore Year	
		Transportation Systems	3			GBTT 252 Business of Shipping	3
	HIST 101	American Civilization I	3			HIST 102 American Civilization II	3
	HUMN 201	World Literature & Culture I	3			HUMN 202 World Literature & Culture II	3
	MATH 251	Statistics	3		L	NAUT 314 Rules of the Road	2
L	MT 250	Ship Construction & Stability	2		L	NAVG 212 Celestial Navigation	4
	MT 435	Maritime Security	3			OCEA 101 General Oceanography	3
						OCEA 102 General Oceanography Lab	1
		Semester Credits:	17			Semester Credits:	19
L	MT 520	Summer Sea Term II	6	OR	L	MT 521 Cadet Comm Vessel Shipping	6
		T	nner Di	vision	- Inr	nior Year	
	FNGL 452	Technical Writing	3	VISION	Jul	GBEC 122 Microeconomics	3
		Macroeconomics	3			HIST 416 US Maritime History to Civil War	
		Environmental Management	3			or HIST 417 US Maritime History Since 1865	3
L		Intro to Cargo Ops & Stability	3		L	MT 322 Marine Cargo Operations	3
L		Collision Avoidance	3		L	NAUT 308 Nautical Operations: Safety	3
-	10101 515	Humanities Elective	3		L	NAVG 312 Electr Nav & Voyage Planning	4
			5			Humanities Elective	3
<u> </u>		Semester Credits:	18		ļl	Semester Credits:	19
	N (T) 530						
L		Summer Sea Term III	5	_			
L	PS 412	Medical Care Provider	1				
 			pper Di	vision	- Ser	nior Year	
		Humanities Research Methods	3 –	$ \rightarrow $		GBEC 428 Economic Geography	3
		Literature of the Sea				HUMN 490 Studies in Maritime Policy	3
L		Deck License Seminar	4		L	NAUT 416 Bridge Resource Mgmt (Unltd Lic.)	3
L	MT 426	Maritime Communications	3			Humanities Elective	3
		Humanities Elective	3			Law Elective	3
		Humanities Elective	3				
		Semester Credits:	16			Semester Credits:	15
						_	_
						USCG License Exam:	

Lower Division Credits: 80 Upper Division Credits: 74 License Credits (L in left column): 62

> Total Credits: 154

B.S. in Maritime Studies with Internship

Fall Semester

		Lov	ver Div	vision	- Fre	eshman Year
	CS 101	Computer Laboratory	1			ENGI
	ENGL 101	Freshman English I	3			E
	GBUS 100	Intro to Business & Economics	3			MATH
	LEAD 101	Leadership/Maritime Experience	1			METI
	MATH 090	Intro to College Mathematics	4			NVSC
	or MATH 111	Applied Calculus I	4			
	PE 100	Swimming and Lifetime Fitness	1			
_		Semester Credits:	13			

Spring Semester

resimum rear			
ENGL 102	2 Freshman English II	3	
ES 10	1 Intro to Environmental Science	3	
MATH 25	1 Statistics	3	
METE 20	1 Meteorology for Mariners	3	
NVSC 102	2 Sea Power & Maritime Affairs	3	
	C	15	

HIST 102 American Civilization II

OCEA 101 General Oceanography

Free Elective

HUMN 202 World Literature & Culture II

OCEA 102 General Oceanography Lab

Semester Credits: 15

3

3

3

3

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16

Lower Division - Sophomore Year GBTT 252 Business of Shipping

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	

Semester Credits: 15

Upper Division - Junior Year

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

- Ju	mor rear			
	GBEC 122	Microeconomics	3	
	HIST 416	US Maritime History to Civil War	3	
	or HIST 417	US Maritime History Since 1865	S	
		Humanities Elective	3	
		LAS Elective	3	
		Free Elective	3	
		Somaaton Cradita	15	

Semester Credits: 15

Semester Credits:

	-		
nester Credits:	15		
		-	

	U	pper D	ivision	- Sen	llor Year	
GBEC 428	Economic Geography	3			HUMN 490	Studies in Maritime Po
HUMN 465	Humanities Research Methods	3			HUMN 515	Humanities Internship II
or ENGL 416	Literature of the Sea	5			or	Free Elective
HUMN 505	Humanities Internship I	3				Humanities Elective
	Humanities Elective	3				LAS Elective
	LAS Elective	3				Law Elective
	Law Elective	3				
	Semester Credits:	18				Semes

Unner Division Senier Veen

HUMN 490	Studies in Maritime Policy	3	
HUMN 515	Humanities Internship II	3	
or	Free Elective	5	
	Humanities Elective	3	
	LAS Elective	3	
	Law Elective	3	
	Semester Credits:	15	

ester Credits: 15

Lower Division Credits:	59
Upper Division Credits:	
Total Credits:	122

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

Fall Semester

_			F	resh	mai	ı Ye	ear
	ENGL 101	Freshman English I	3				1
L	ENGR 503	Manufacturing Processess I	1				
	GBUS 100	Intro to Business & Economics	3			L	
	LEAD 101	Leadership/Maritime Experience	1			L	
	MATH 090	Intro to College Mathematics	4				
L	PS 103	Water Safety & Survival	1				
L	PS 112	STCW Basic Training	2				1
		Semester Credits:	15				

ENGR 510 Summer Sea Term I

L

Spring	Semester
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	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	
	or PHYS 211	General Physics I	3	
		Semester Credits:	14	

Semester Credits: 14

Sophomore Year

6

			50	pno
L	ENGR 542	Ship Systems II	2	
L	ENGR 561	Small Vessels Engineer I	4	
	HIST 101	American Civilization I	3	
	or HIST 102	American Civilization II	5	
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	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	

• •	cui			
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	
			1.0	

Semester Credits: 16

License Credits (L in left column):	
Total Credits:	73

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

Fall Semester

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

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

Spring Semester

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 322	Marine Cargo Operations	3	
L	MT 321	Intro to Cargo Ops & Stability	3			L	NAVG 312	Electr Nav & Voyage Planning	4	
L	NAUT 308	Nautical Operations: Safety	2				PS 411	Towing Operations	3	
L	NAUT 314	Rules of the Road	2			L	PS 412	Medical First Aid	1	
L	NAUT 315	Collision Avoidance	3			L	PS 414	Bridge Resource Mgmt (Limited Lic.	3	
	PS 410	The Business of Towing	3					LAS Elective	3	
		With	o Ocea	n Er	idoi	rsen	ent Option:			
L	L MT 426 Maritime Communications 3 L NAVG 212 Celestial Navigation					4				
Semester Credits:			16		Semester Credits: 1					
Semester Credits with Ocean Endorsement Option:			19		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

Total Cred Total Credits with Ocean Endorsement Option: 84