Natural Resources (BS): Marine and Coastal Concentration

The degree of Bachelor of Science in Natural Resources is available with a concentration in Marine and Coastal Resources.

Marine scientists explore all aspects of the seas and coastal regions, seeking to understand how the oceans, their biological communities, the solid earth and the atmosphere interact. As professionals with interdisciplinary training, marine scientists are needed to advise business, industry and governments on the potential impact of human activities and the wise use of marine resources. Marine scientists work for consulting firms; regulatory agencies; the mass media; business and industry; federal, state and local governments; academic laboratories; research and education organizations; and nonprofit environmental watchdog groups.

Plan Requirements

Code	Title	Hours
Major Core Courses		
MEA 100	Earth System Science: Exploring the Connections	4
MEA 101	Geology I: Physical	3
MEA 110	Geology I Laboratory	1
MEA 130	Introduction to Weather and Climate	3
MEA 135	Introduction to Weather and Climate Laboratory	1
MEA 200	Introduction to Oceanography	3
MEA 210	Oceanography Lab	1
MEA 220	Marine Biology	3
MEA 250	Introduction to Coastal Environments	3
MEA 251	Introduction to Coastal Environments Laboratory	1
MEA 459	Field Investigation of Coastal Processes	5
MEA 469	Ecology of Coastal Resources	3
GIS 280	Introduction to GIS	3
Advised Elective [1]		3
Advised electives to be chosen with advisor and should be a science, math, engineering or GIS course at the 400 level or higher.		
Select one of the following Chemistry options:		3
MEA 323	Geochemistry of Natural Waters	
MEA 473	Principles of Chemical Oceanography	
MEA 573	Principles of Chemical Oceanography	
NR 400	Natural Resource Management	4
Math/Statistics/Orientation		
MA 131	Calculus for Life and Management Sciences A [2]	3
MA 231	Calculus for Life and Management Sciences B	3
ST 311	Introduction to Statistics	3
COS 100	Science of Change	2
Chemistry/Physics/Natural Sciences		
BIO 181	Introductory Biology: Ecology, Evolution, and Biodiversity	4
CH 101	Chemistry - A Molecular Science	3
CH 102	General Chemistry Laboratory	1
ZO 350	Animal Phylogeny and Diversity	4
CH 201	Chemistry - A Quantitative Science	3
CH 202	Quantitative Chemistry Laboratory	1
AEC 360	Ecology	4
or PB 360	Ecology	
Select one of the following Physics courses:		4
PY 211	College Physics I	
PY 205 & PY 206	Physics for Engineers and Scientists I and Physics for Engineers and Scientists I Laboratory	
Select one of the following Physics courses:		4
PY 212	College Physics II	
PY 208 & PY 209	Physics for Engineers and Scientists II and Physics for Engineers and Scientists II Laboratory	
SSC 200 & SSC 201	Soil Science and Soil Science Laboratory	4
AEC 420	Introduction to Fisheries Science	3
English/Writing		
ENG 101	Academic Writing and Research [2]	4
Select one of the following:		3
ENG 331	Communication for Engineering and Technology	
ENG 332	Communication for Business and Management	
ENG 333	Communication for Science and Research	
Humanities/Social Sciences		
PS 201	American Politics and Government	3
or PS 202	State and Local Government	
Select one of the following Economics courses:		3
ARE 201	Introduction to Agricultural & Resource Economics	
ARE 201A	Introduction to Agricultural & Resource Economics	
EC 201	Principles of Microeconomics	
EC 205	Fundamentals of Economics	
ARE 336	Introduction to Resource and Environmental Economics	3
or EC 336	Introduction to Resource and Environmental Economics	
PS 336	Global Environmental Politics	3
Health & Exercise Science		
GEP Health and Exercise Studies (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/)		1
HESA 226	Skin and Scuba Diving I	1
or HESO 253		
GEP Courses		
GEP Humanities (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-humanities/)		6
GEP Elective (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/)		3
GEP Global Knowledge (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-global-knowledge/) (verify requirement)		
GEP Foundations of American Democracy (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-fad/) (verify requirement)		

World Language Proficiency (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/world-language-proficiency/) (verify requirement)	
Total Hours	**120**

1 Students should consult their academic advisors to determine which courses fill this requirement.
2 A grade of C- or higher is required.

Semester Sequence

Critical Path Courses -Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

This is a sample.

First Year		
Fall Semester		**Hours**
MA 131	Calculus for Life and Management Sciences A (CP) [1]	3
MEA 100	Earth System Science: Exploring the Connections [2]	4
MEA 101	Geology I: Physical [2]	3
MEA 110	Geology I Laboratory [2]	1
COS 100	Science of Change	2
GEP Health and Exercise Studies (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/)		1
	Hours	**14**
Spring Semester		
BIO 181	Introductory Biology: Ecology, Evolution, and Biodiversity (CP) [3]	4
ENG 101	Academic Writing and Research [1]	4
MA 231	Calculus for Life and Management Sciences B (CP) [3]	3
MEA 130	Introduction to Weather and Climate [2]	3
MEA 135	Introduction to Weather and Climate Laboratory [2]	1
	Hours	**15**
Second Year		
Fall Semester		
CH 101	Chemistry - A Molecular Science (CP) [1]	3
CH 102	General Chemistry Laboratory [3]	1
MEA 200	Introduction to Oceanography (CP) [2]	3
MEA 210	Oceanography Lab [2]	1
PS 336	Global Environmental Politics	3
MEA 220	Marine Biology [2]	3
	Hours	**14**
Spring Semester		
CH 201	Chemistry - A Quantitative Science [3]	3
CH 202	Quantitative Chemistry Laboratory [3]	1
Economics Elective		3
MEA 250	Introduction to Coastal Environments [2]	3
MEA 251	Introduction to Coastal Environments Laboratory [2]	1
HESA 226	Skin and Scuba Diving I	1
ZO 350	Animal Phylogeny and Diversity [3]	4
	Hours	**16**
Third Year		
Fall Semester		
GEP Humanities (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-humanities/)		3
PB 360	Ecology [3]	4
PY 211	College Physics I [1]	4
ST 311	Introduction to Statistics [3]	3
	Hours	**14**
Spring Semester		
Chemistry Option Elective (p. 1) [2]		3
Advanced Writing Elective (p. 1)		3
ARE/EC 336	Introduction to Resource and Environmental Economics	3
MEA 469	Ecology of Coastal Resources [2]	3
PY 212	College Physics II [3]	4
	Hours	**16**
Summer		
MEA 459	Field Investigation of Coastal Processes [2]	5
	Hours	**5**
Fourth Year		
Fall Semester		
GEP Humanities (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-humanities/)		3
GEP Elective (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/)		3
PS 336	Global Environmental Politics	3
Advised Elective [2]		3
	Hours	**12**
Spring Semester		
AEC 420	Introduction to Fisheries Science [3]	3
GIS 280	Introduction to GIS [2]	3
NR 400	Natural Resource Management [2]	4
SSC 200	Soil Science [3]	3
SSC 201	Soil Science Laboratory [3]	1
	Hours	**14**
	Total Hours	**120**

1 A grade of C- or higher is required.
2 No more than one D will be accepted in major core courses.
3 No more than one D will be accepted in other basic math or science courses.

Career Opportunities

MEAS undergraduate degree programs provide talented students with the foundation of scientific knowledge required for careers in government, industry, or academia. Many students pursue graduate degrees after completion of an undergraduate degree in Natural Resources.

Marine Sciences graduates go on to become oceanographers, to manage our coastal resources, model air-sea interaction, and explore global climate change. They conduct basic and applied research, serving as environmental consultants for industry and governmental agencies, policy and management experts for governmental agencies, and environmental science educators. Graduates with a Natural Resources degree are versed in the fundamental processes and interdisciplinary nature of the coastal zone. As scientists, managers, administrators, and regulators, they make decisions regarding use and conservation of coastal and marine resources.

MEAS graduates play a key service role for the State of North Carolina, assisting in everything from forecasting severe storms and analyzing the impact of atmospheric pollutants on agriculture and our estuaries, to determining the effects of toxic waste disposal on quality of surface and ground water.

Career Titles

- Climate Change Policy Analysts
- Conservation Scientist
- Environmental Engineer
- Environmental Planner
- Environmental Research Analyst
- Forest and Conservation Technician
- Forest and Conservation Workers
- Forester
- Forestry and Conservation Science Professor
- Park Naturalist
- Range Manager
- Soil Conservationist
- Wildlife Control Agent
- Natural Resources Management and Policy
- Conservation Scientist
- Environmental Engineer
- Environmental Planner
- Environmental Research Analyst
- Fish and Game Warden
- Forest and Conservation Workers
- Forester
- Landfill Inspectors
- Range Manager
- Soil Conservationist
- Wind Energy Operations Managers
- Wind Energy Project Managers

Learn More About Careers

NCcareers.org (https://nccareers.org/)
Explore North Carolina's central online resource for students, parents, educators, job seekers and career counselors looking for high quality job and career information.

Occupational Outlook Handbook (https://www.bls.gov/ooh/)
Browse the Occupational Outlook Handbook published by the Bureau of Labor Statistics to view state and area employment and wage statistics. You can also identify and compare similar occupations based on your interests.

Career One Stop Videos (https://www.careeronestop.org/)
View videos that provide career details and information on wages, employment trends, skills needed, and more for any occupation. Sponsored by the U.S. Department of Labor.

Focus 2 Career Assessment (https://careers.dasa.ncsu.edu/explore-careers/career-assessments/) (NC State student email address required)
This career, major and education planning system is available to current NC State students to learn about how your values, interests, competencies, and personality fit into the NC State majors and your future career. An NC State email address is required to create an account. Make an appointment with your career counselor (https://careers.dasa.ncsu.edu/about/hours-appointments/) to discuss the results.

Focus 2 Apply Assessment (https://www.focus2career.com/Portal/Register.cfm?SID=1929) (Available to prospective students)
A career assessment tool designed to support prospective students in exploring and choosing the right major and career path based on your unique personality, interests, skills and values. Get started with Focus 2 Apply and see how it can guide your journey at NC State.