

# FRESHWATER AND MARINE SCIENCES, CERTIFICATE

## REQUIREMENTS

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The certificate requires a minimum of 15 credits. Students must complete distinct courses in each requirement; they may not reuse courses to meet multiple requirements.

Code	Title	Credits
<b>Core courses: Complete at least 5 credits from this list of courses.</b>		<b>5</b>
ZOOLOGY 304	Marine Biology	
ZOOLOGY/ ENVIR ST 315	Limnology-Conservation of Aquatic Resources	
ZOOLOGY 316	Laboratory for Limnology-Conservation of Aquatic Resources	
ATM OCN/ GEOSCI 105	Survey of Oceanography	
CIV ENGR 311	Hydroscience	
SOIL SCI/ ATM OCN 132	Earth's Water: Natural Science and Human Use	
<b>Freshwater: Complete one course</b>		<b>2-3</b>
ZOOLOGY/ ENVIR ST 315	Limnology-Conservation of Aquatic Resources	
ZOOLOGY 316	Laboratory for Limnology-Conservation of Aquatic Resources	
ATM OCN/ SOIL SCI 132	Earth's Water: Natural Science and Human Use	
BOTANY 330	Algae	
CIV ENGR 311	Hydroscience	
CIV ENGR 415	Hydrology	
CIV ENGR 416	Water Resources Systems Analysis	
CIV ENGR 516	Hydrologic Data Analysis	
LAND ARC/ ENVIR ST 361	Wetlands Ecology	
<b>Marine: Complete one course</b>		<b>2-4</b>
ZOOLOGY 304	Marine Biology	
ZOOLOGY 320	Field Marine Biology	
ATM OCN/ GEOSCI 105	Survey of Oceanography	
<b>Freshwater and Marine: Courses count towards either requirement area.</b>		
ZOOLOGY 303	Aquatic Invertebrate Biology	
ZOOLOGY/ ENVIR ST 510	Ecology of Fishes	
ZOOLOGY/ ENVIR ST 511	Ecology of Fishes Lab	
CIV ENGR 514	Coastal Engineering	

ATM OCN 310 Dynamics of the Atmosphere and Ocean I

**Electives to reach 15 credits, any Freshwater or Marine course beyond the minimum requirements counts as electives.** **3-6**

**Total Credits** **15**

## RESIDENCE AND QUALITY OF WORK

- Minimum 2.000 GPA on all certificate courses
- At least 8 credits must be taken in residence at UW-Madison

## CERTIFICATE COMPLETION REQUIREMENT

This undergraduate certificate must be completed concurrently with the student's undergraduate degree. Students cannot delay degree completion to complete the certificate.