

FIVE COLLEGE COASTAL & MARINE SCIENCES CERTIFICATE COURSE LISTINGS

MARINE BIODIVERSITY

SCHOOL	COURSE	TITLE
AC	GEOL 251 (27)	Paleontology & Geobiology (Paleontology)
HC	CS 216	Basic Animal Behavior
MHC	BIOL 310	Invertebrate Zoology
MHC	GEOL 115	Emergence of Animals
MHC	GEOL 224	Paleontology-Stratigraphy
SC	GEOL 231	Invertebrate Paleontology and Paleoecology
SC	BIO 260/261	Invertebrate Diversity
UM	BIOLOGY 273(297B)	Biology of Marine Vertebrates
UM	BIOLOGY 280	Evolution: Diversity of Life Thru Time
UM	BIOLOGY 540	Herpetology
UM	BIOLOGY 542	Ichthyology
UM	BIOLOGY 544	Ornithology
UM	BIOLOGY 548	Mammalogy
UM	BIOLOGY 597G	Environmental Evolution
UM	GEO-SCI 483	Environmental Evolution
UM	GEO-SCI 591M	Marine Micropaleontology

MARINE AND COASTAL ECOLOGY

SCHOOL	COURSE	TITLE
AC	BIOL 181 (18)	Adaptation and the Organism
AC	BIOL 230 (23)	Ecology
AC	BIOL 281 (39)	Animal Behavior
AC	BIOL 440	Conservation Biology
AC	ENST 210 (21)	Ecology
HC	NS 207	Ecology
MHC	BIOL 223	Ecology
MHC	BIOL 315	Behavioral Ecology
MHC	BIOL 318	Aquatic Biology
MHC	BIOL 321G	Marine Conservation Biology
MHC	BIOL 331	Conservation Biology
SC	BIO 154/155	Biodiversity, Ecology and Conservation
SC	BIO 268/269	Marine Ecology
SC	BIO 364/365	Plant Ecology
SC	BIO 366	Biogeography
SC	BIO 390	Topics in Environmental Bio: Ecology of Coral Reefs
UM	BIOLOGY 287	Introductory Ecology
UM	BIOLOGY 421	Plant Ecology
UM	BIOLOGY 497H	Tropical Field Biology
UM	GEO-SCI 541	Paleoecology
UM	NRC 570(470)	Ecology of Fish
UM	NRC 597AE	Aquatic Ecology

Certificate Course Requirements:

Six courses, one from each category, are required. At least three of the six courses must be above introductory level, and must not all be from the same field of study (example: biology, geology, environmental science, etc.).

At least one course with a heavy concentration in coastal and marine science is required (listed in bold). An introductory course in oceanography is strongly recommended.

GEOLOGY AND CHEMISTRY

SCHOOL	COURSE	TITLE
AC	GEOL 109 (09)	Environmental Science: Global Warming & Energy Res.
AC	GEOL 121 (21)	Surface Earth Dynamics
AC	GEOL 301 (28)	Hydrogeology
AC	GEOL 340 (34)	Sedimentology & Stratigraphy
AC	GEOL 450 (45)	<u>Seminar in Biogeochemistry (Biogeochemistry)</u>
HC	NS 106	Earth Resources
HC	NS 194	Geological Controversies
HC	NS 195	Pollution and Our Environment
HC	NS 366	<u>Environmental Chemistry</u>
MHC	GEOL 100	Physical Geology
MHC	GEOL 101/107	Environmental Geology
MHC	GEOL 102	History of Life
MHC	GEOL 103	Oceanography
MHC	GEOL 115	Climate Change (<i>no longer offered</i>)
MHC	GEOL 203	Surface Processes
MHC	GEOL 227	Groundwater
MHC	GEOL 240	Geological Resources and the Environment
MHC	GEOL 326	Global Climate Change
MHC	GEOL 334	<u>History of the Earth</u>
SC	CHM 108	Environmental Chemistry
SC	CHM 346	Environmental Analytical Chemistry
SC	EGR 315	Ecohydrology
SC	EGR 319	Groundwater Geology
SC	GEO 104	Global Climate Change
SC	GEO 106	Extraordinary Events in History of Earth, Life & Climate
SC	GEO 108	Oceanography
SC	GEO 109	The Environment
SC	GEO 111	Introduction to Earth Processes and History
SC	GEO 232	Sedimentary Geology (Sedimentology)
SC	GEO 270: J-term	Carbonate Systems and Coral Reefs of the Bahamas
SC	GEO 301	Aqueous Geochemistry
SC	GEO 309	Groundwater Geology
SC	GEO 361	<u>Tectonics and Earth History</u>
UM	GEO-SCI 100	Global Environmental Change
UM	GEO-SCI 101	The Earth
UM	GEO-SCI 103	Introductory Oceanography
UM	GEO-SCI 201	History of the Earth
UM	GEO-SCI 285	Environmental Geology
UM	GEO-SCI 354	Climatology
UM	GEO-SCI 415	Introduction to Geochemistry
UM	GEO-SCI 485	Applied Environmental Geology
UM	GEO-SCI 517	Sedimentary Geochemistry
UM	GEO-SCI 519	Aqueous and Environmental Geochemistry
UM	GEO-SCI 591P	Paleoceanography
UM	GEO-SCI 595D	Physical Oceanography
UM	GEO-SCI 557	Coastal Processes

Certificate Course Requirements: Six courses, one from each category, are required. At least three of the six must be above introductory level, and in at least two fields of study (geology and biology, etc.)

At least one course in bold must be taken to complete the Certificate requirements. An introductory course in oceanography is strongly recommended.

www.fivecolleges.edu/sites/marine/certificate

January 2012

RESOURCE MANAGEMENT AND POLICY

SCHOOL	COURSE	TITLE
AC	ECON 250 (25)	<u>Environmental/Natural Resource Economics</u>
HC	NS 107	Sustainable Living
HC	NS 157/357	Sustainable Water Resources
HC	NS 268	Intro to GIS and Natural Resource Management
HC	SS 207	<u>Environmental Economics and Policy</u>
MHC	ECON 203	Environmental Economics
MHC	ENVST 304	Planning and the Environment
MHC	ENVST 341	Science/Power in Environmental Governance (<i>with marine case study</i>)
MHC	GEOG 204	Human Dimensions of Environmental Change
MHC	GEOG 307	Remote Sensing
MHC	GEOG 321	Geographic Information Systems
MHC	IR 241	Global Resource Politics
MHC	POLIT 266	<u>Environmental Politics In America</u>
SC	ECO 224	Environmental Economics
SC	GOV 243	International Law
SC	GOV 254	Politics of the Global Environment
SC	PPL 220	Public Policy Analysis
SC	PPL 222	US Environmental History & Policy
SC	ENV/GEO 150	Modeling Our World: Intro GIS
SC	ENV 300	<u>Seminar in Env. Science & Policy (<i>no longer offered</i>)</u>
UM	ECON 308	Political Economy of the Environment
UM	GEO-SCI 380	Political Geography
UM	GEO-SCI 392B	Coastal Resource Policy
UM	GEO-SCI 497E	Geography, Policy and Environment
UM	GEO-SCI 497WG	Water Geographies: Conflict & Sustainability
UM	GEO-SCI 591Q	Introduction to Remote Sensing
UM	NRC 260	Fish Conservation and Management
UM	NRC 261	Wildlife Conservation
UM	NRC 409	Natural Resource Policy & Administration
UM	NRC 563	Wetlands, Wildlife Ecology & Management
UM	NRC 564	Wildlife Habitat Management
UM	NRC 571	Fisheries Science and Management
UM	NRC 592G	Intro to GIS
UM	NRC 597R	Watershed Science & Management
UM	NRC 597SA	Sustainable Aquaculture
UM	NRC 597WR	Water Resources Management
UM	REGIONPL 553	Resource Policy and Planning
UM	RES-ECON 102	Intro to Resource Economics (<i>prior to 2012 only</i>)
UM	RES-ECON 262	Environmental Economics
UM	RES-ECON 263	Natural Resource Economics

Approval of Unlisted Courses

Course approval is at the discretion of the Five College Coastal & Marine Sciences steering committee. The student must present his or her advisor or the FCC&MS program coordinator with a course description and syllabus. This procedure also applies to all courses taken through academic off-campus programs and transfer credits from other institutions.

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