

CALIFORNIA STATE UNIVERSITY CHANNEL ISLANDS

PROGRAM MODIFICATION

PROGRAM AREA ENVIRONMENTAL SCIENCE AND RESOURCE MANAGEMENT

Please use the following format to modify any existing program. Any deletions from an existing program need to be underlined (left hand column), and any additions/changes to the program need to be in CAPS (right hand column).

EXISTING PROGRAM	PROPOSED PROGRAM
<p>Name of Degree Program</p> <p>Environmental Science and Resource Management</p> <p>Catalog Description of the Program</p> <p>There are no changes to catalog description. As such, the catalog description has been omitted.</p> <p>Requirements for the Bachelor of Science Degree in Environmental Science and Resource Management (120 Units):</p> <p>Lower Division Requirements (36 Units): BIOL 200 Principles of Organismal and Population Biology (4) BIOL 201 Principles of Cell and Molecular Biology (4) CHEM 121 General Chemistry I and Laboratory (4) CHEM 122 General Chemistry II and Laboratory (4) ECON 110 Principles of Microeconomics (3) ECON 111 Principles of Macroeconomics (3)</p> <p>MATH 150 Calculus I (4) <i>(MATH 151 Calculus II is also recommended)</i> Select one course from each of the following sets of courses: 1. <u>ANTH 102 Cultural Anthropology (3)</u> <u>ANTH 103 Human Beginnings: Biological and Cultural Evolution (3)</u> <u>ANTH 120 The World Eaters: Co-evolution of Human and Natural Systems (3)</u> <u>ANTH 322 World Cultures: North America (3)</u> 2. <u>GEOL 121 Physical Geology (4)</u> <u>PHYS 200 General Physics I (4)</u> <i>(PHYS 201 General Physics II is also recommended)</i></p> <p>3. MATH 202 Biostatistics (3) MATH 340 Statistics for Business and Economics (3) MATH 342 Probability and Statistics (3)</p> <p>Upper Division Requirements (28 Units): <u>BIOL 330 Ecology and the Environment (4)</u> <u>ECON 362 Introduction to Environmental Economics (3)</u> <u>ENGL 330 Writing in the Disciplines (3)</u> <u>ENGL 337 Literature of the Environment (3)</u></p>	<p>Name of Degree Program</p> <p>Environmental Science and Resource Management</p> <p>Catalog Description of the Program</p> <p>There are no changes to catalog description. As such, the catalog description has been omitted.</p> <p>Requirements for the Bachelor of Science Degree in Environmental Science and Resource Management (120 Units):</p> <p>Lower Division Requirements (34-36 Units): BIOL 200 Principles of Organismal and Population Biology (4) BIOL 201 Principles of Cell and Molecular Biology (4) CHEM 121 General Chemistry I and Laboratory (4) CHEM 122 General Chemistry II and Laboratory (4) ECON 110 Principles of Microeconomics (3) ECON 111 Principles of Macroeconomics (3)</p> <p>ESRM 100 INTRODUCTION TO ENVIRONMENTAL SCIENCE AND RESOURCE MANAGEMENT (3)</p> <p>MATH 140 CALCULUS FOR BUSINESS APPLICATIONS (3) OR MATH 150 Calculus I (4) <i>(MATH 151 Calculus II is also recommended)</i></p> <p>GEOL 121 PHYSICAL GEOLOGY (4) OR GEOL 122 HISTORICAL GEOLOGY (3)</p> <p>One of the following courses: MATH 202 Biostatistics (3), MATH 340 Statistics for Business and Economics (3) or MATH 342 Probability and Statistics (3)</p> <p>Upper Division Requirements (29 Units): <u>BIOL 330 Ecology and the Environment (4)</u> <u>ECON 362 ENVIRONMENTAL ECONOMICS (3)</u> ENGL 337 Literature of the Environment (3)</p>

<p>ESRM 328 Introduction to Geographical Information Systems (3) <u>ESRM 330 Environmental Institutions, Law, and Regulation (3)</u> ESRM 499 Capstone (3) GEOL 321 Environmental Geology (3)</p> <p>ECON 310 Intermediate Microeconomics (3) or ECON 329 Managerial Economics (3)</p> <p>Emphasis or Option Requirements All students must select either the Environmental Science Emphasis or the Resource Management Emphasis and take the associated coursework.</p> <p>Environmental Science Emphasis Requirements (16 Units): BIOL 432 Principles of Epidemiology and Environmental Health (3) CHEM 250 Quantitative Analysis (2) CHEM 251 Quantitative Analysis Laboratory (2) A total of nine units from the following courses: BIOL 301 Microbiology (4) BIOL 310 Animal Biology and Ecology (4) BIOL 311 Plant Biology and Ecology (4) BIOL 312 Marine Biology (4) BIOL 331 Biotechnology in the 21st Century (2) BIOL 333 Emerging Public Health Issues (2) BIOL 402 Toxicology (3) BIOL 427 Developmental Biology (3) BIOL 428 Biology of Cancer (2) CHEM 311 Organic Chemistry I (3) CHEM 312 Organic Chemistry I Laboratory (1) CHEM 314 Organic Chemistry II (3) CHEM 315 Organic Chemistry II Laboratory (1) CHEM 318 Biological Chemistry (3) CHEM 333 Energy and Society (3)</p> <p>ESRM 481 Topics in Environmental Pollution (3) MATH 430 Research Design and Data Analysis (3) PHYS 201 General Physics II (4)</p> <p>Resource Management Emphasis Requirements (16 Units): <u>ECON 486 Introduction to Econometrics (3)</u> <u>ECON 488 Quantitative Methods in Environmental Economics (4)</u></p> <p>A total of nine units from the following courses: ECON 443 Capital Theory (3) <u>ECON 462 Environmental Economics (3)</u> <u>ECON 463 Energy Economics (3)</u> ECON 464 Natural Resource Economics (3)</p> <p><u>ESRM 332 Population and Resource Constraints (3)</u> ESRM 410 Environmental Impact Analysis (3) ESRM 482 Topics in Environmental Planning and Resource Management (3) ESRM 483 Topics in Global Resource Management (3)</p>	<p>ESRM 313 CONSERVATION BIOLOGY (3) ESRM 328 Introduction to Geographical Information Systems (3) ESRM 329 ENVIRONMENTAL LAW AND POLICY (3) ESRM 499 Capstone (3) GEOL 321 Environmental Geology (3)</p> <p>ECON 310 Intermediate Microeconomics (3) or ECON 329 Managerial Economics (3)</p> <p>Emphasis or Option Requirements All students must select either the Environmental Science Emphasis or the Resource Management Emphasis and take the associated coursework.</p> <p>Environmental Science Emphasis Requirements (16 Units): BIOL 432 Principles of Epidemiology and Environmental Health (3) CHEM 250 Quantitative Analysis (2) CHEM 251 Quantitative Analysis Laboratory (2) A total of nine units from the following courses: BIOL 301 Microbiology (4) BIOL 310 Animal Biology and Ecology (4) BIOL 311 Plant Biology and Ecology (4) BIOL 312 Marine Biology (4) BIOL 331 Biotechnology in the 21st Century (2) BIOL 333 Emerging Public Health Issues (2) BIOL 402 Toxicology (3) BIOL 427 Developmental Biology (3) BIOL 428 Biology of Cancer (2) CHEM 311 Organic Chemistry I (3) CHEM 312 Organic Chemistry I Laboratory (1) CHEM 314 Organic Chemistry II (3) CHEM 315 Organic Chemistry II Laboratory (1) CHEM 318 Biological Chemistry (3) CHEM 333 Energy and Society (3) ENGL 330 WRITING IN THE DISCIPLINES (3) ESRM 481 Topics in Environmental Pollution (3) MATH 430 Research Design and Data Analysis (3) PHYS 201 General Physics II (4)</p> <p>Resource Management Emphasis Requirements (16 Units): ECON 488 APPLIED MANAGERIAL ECONOMETRICS (4)</p> <p>TWO OF THE FOLLOWING COURSES: ESRM 462 COASTAL AND MARINE RESOURCE MANAGEMENT (3) ESRM 463 WATER RESOURCES MANAGEMENT (30) ESRM 464 LAND USE PLANNING AND AGRICULTURAL MANAGEMENT (3)</p> <p>A total of SIX units from the following courses: ECON 443 Capital Theory (3)</p> <p>ECON 464 Natural Resource Economics (3) ECON 480 TOPICS IN ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS (3) ENGL 330 WRITING IN THE DISCIPLINES (3) ESRM 332 HUMAN ECOLOGY (3) ESRM 410 Environmental Impact Analysis (3) ESRM 482 Topics in Environmental Planning and Resource Management (3)</p>
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<p>MGT 307 Management of Organizations (3) MGT 428 Management for Science/ Technology Organization (3)</p>	<p>ESRM 483 Topics in Global Resource Management (3) MGT 307 Management of Organizations (3) MGT 428 Management for Science/ Technology Organization (3)</p>
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SUMMARY OF CHANGES

1. (Lower Division Requirements Addition) A new course, ESRM 100, Introduction to Environmental Science and Resource Management , has been added to the lower division requirements for the major.
2. (Lower Division Requirements Change) The program currently requires that majors take either GEOL 121 or PHYS 200. This requirement has been modified so that majors will take either GEOL 121 or GEOL 122.
3. (Lower Division Requirements Deletion) The program currently requires that majors take either ANTH 102, ANTH 103, ANTH 120 or ANTH 322. This requirement has been deleted.
4. (Lower Division Requirements Change) The program currently requires that majors take MATH 150. This requirement has been modified so that majors will take either MATH 140 or MATH 150.
5. (Upper Division Requirements Addition) A new course, ESRM 313, Conservation Biology, has been added to the upper division requirements for the major.
6. (Upper Division Requirements Deletion) The program currently requires that majors take ENGL 330. This requirement has been deleted. (Note: ENGL 330 has been added to the list of elective courses in the Environmental Science Emphasis and the Resource Management Emphasis. See items 9 and 13 below.)
7. (Upper Division Requirements Change) The title of ECON 362 has been changed from “Introduction to Environmental Economics” to “Environmental Economics.”
8. (Upper Division Requirements Change) ESRM 330, Environmental Institutions, Law and Regulations, has been redesigned. It is now ESRM 329, Environmental Law and Policy.
9. (Environmental Science Emphasis Elective Addition) ENGL 330 has been added to the list of elective courses in the Environmental Science Emphasis.
10. (Resource Management Emphasis Requirement Deletion). The program currently requires that students in the Resource Management emphasis take ECON 486. This requirement has been deleted.
11. (Resource Management Emphasis Requirement Addition) Students in the Resource Management Emphasis must take two of the following three courses: ESRM 462, Coastal and Marine Resource Management, ESRM 463, Water Resources Management, or ESRM 464, Land Use Planning and Agricultural Management. These are new courses.
12. (Resource Management Emphasis Requirement Change) ECON 488 has been redesigned. The title has been changed from “Quantitative Methods in Environmental Economics” to “Applied Managerial Econometrics.”
13. (Resource Management Emphasis Elective Addition) ENGL 330 has been added to the list of elective courses in the Resource Management Emphasis.
14. (Resource Management Emphasis Elective Addition) A new course, ECON 480, Topics in Environmental and Natural Resource Economics, has been added to the list of elective courses in the Resource Management Emphasis.
15. (Resource Management Emphasis Elective Deletion) ECON 462 has been deleted from the list of electives in the Resource Management Emphasis.
16. (Resource Management Emphasis Elective Deletion) ECON 463 has been deleted from the list of electives in the Resource Management Emphasis.
17. (Resource Management Emphasis Elective Change) The title of ESRM 332 has been changed from “Population and Resource Constraints” to “Human Ecology.”

JUSTIFICATION

The modifications above have been proposed and reviewed, and are recommended by the members of the Environmental Science and Resource Management Planning and Policy Committee. The Committee believes that the proposed changes will enhance the learning opportunities for Environmental Science and Resource Management majors.

Proposer of Program Modification Date

Approvals

Program Coordinator Date

Curriculum Committee Chair Date

Dean Date

Effective Semester: _____

**California State University Channel Islands
Program Modification Consultation Sheet**

1. Degree Program: _____

Recommend Approval

Program Area/Unit	Program/Unit Coordinator	YES	NO (attach objections)	Date
Art				
Business & Economics				
Education				
ESRM				
Humanities				
Liberal Studies				
Mathematics & CS				
Sciences				
Library				
Information Technology				