Environmental Studies

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Degree(s)
Transfer
A.S. in Environmental Studies 16765 AS.ENVS.OPTB or AS.ENVS.OPTC
(with Transfer Emphasis using General Education Requirements Option B or C)
See Also: A.A. in Liberal Arts - Mathematics & Science Emphasis

Non-Transfer: None
See: A.S. in Science
A.S. in Turf Management
A.S. in Water Technology

Certificate(s) None
Employment Concentration Certificate(s) None

Program Description

The Environmental Studies transfer and non-transfer programs draw on a multi-disciplinary curriculum that emphasizes the impact of human civilizations on environmental systems. The disciplines represented draw from the physical, life and social sciences as well as the humanities. Environmental science is largely issues-based and relies heavily on the critical thinking skills necessary to understand contemporary issues and propose meaningful solutions to complex problems. Successful completion of the degree requirements entails a broad scientific background, which provides a foundation for continued academic and career success.

Career Opportunities

For any BA/BS careers, please see your transfer institution.

Transfer Preparation

MSJC offers a range of course work to prepare students to transfer to four-year colleges and universities. All four-year institutions prescribe their own standards for course evaluation and admissions. Prospective transfer students are advised to research careers, degrees and majors in the Career/Transfer Center, access www.assist.org, review the MSJC catalog and meet with a counselor to expedite their transfer plan.

Learning Outcomes

- Describe the scientific method and explain how environmental science is related to the various traditional sciences of physics, chemistry, biology, geology, and anthropology.
- Analyze physical problems using the laws of physics and appropriate mathematical techniques.
- Demonstrate a knowledge and understanding of the fundamental principles governing matter and energy and their transformations via chemical reactions.
- Explore and appreciate the facts and principles concerning heredity, variation and diversity, the cell, evolution and natural selection.
- Analyze the interrelationship between humans and their physical environment.

Degree

An Associate in Science (AS), degree in Environmental Studies prepares students for transfer to four-year colleges offering a Bachelor of Science (BS) in Environmental Studies or related fields. The major requirements for a BS in Environmental Studies can be met by completing the pattern described plus all MSJC General Education Option B (CSU-GE breadth) and/or Option C (IGETC) requirements.

MSJC Core Requirements (18 units)

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM-101</td>
<td>General Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>CHEM-102</td>
<td>General Chemistry II</td>
<td>5</td>
</tr>
<tr>
<td>ENVS-101</td>
<td>Environmental Science</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>ENVS-101H</td>
<td>Honors Environmental Science</td>
</tr>
<tr>
<td>MATH-110</td>
<td>Pre-Calculus</td>
<td>5</td>
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Elective Courses (12 units)

<table>
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<tr>
<th>Course</th>
<th>Description</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>ANTH-101</td>
<td>Physical Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>ANTH-101H</td>
<td>Honors Physical Anthropology</td>
</tr>
<tr>
<td>ANTH-102</td>
<td>Cultural Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>ANTH-102H</td>
<td>Honors Cultural Anthropology</td>
</tr>
<tr>
<td>BIOL-116</td>
<td>Natural History and Biodiversity</td>
<td>4</td>
</tr>
<tr>
<td>BIOL-117</td>
<td>Conservation Biology</td>
<td>3</td>
</tr>
</tbody>
</table>

Note: Every effort has been made to keep program information current. Please use this information as a guide and consult with the chair of the department/program or an MSJC counselor.
Water and Soil Technologies & Environmental Engineering Emphasis Major Electives

ANTH-102 Cultural Anthropology 3 units

or

ANTH-102H Honors Cultural Anthropology 3 units

BIOL-115 Topics in Biology 4 units

or

BIOL-115H Honors Topics in Biology 4 units

BIOL-125 Microbiology 5 units

or

BIOL-125H Honors Microbiology 5 units

ECON-203 Introduction to Environmental Economics 3 units

ENGR-154 Computer Aided Drafting I 3 units

ENGR-155 Computer Aided Drafting II 3 units

ENGR-164 Plane Surveying I 4 units

ENGR-165 Plane Surveying II 4 units

ENGR-166 Legal Aspects of Surveying 3 units

ENGR-167 Global Positioning Systems 4 units

ENVS-190 Watershed Resource Management 4 units

ES-101 Topics in Earth Science 3 units

GEOG-101 Physical Geography 3 units

GEOG-102 Cultural Geography 3 units

GEOG-104 Physical Geography Lab 1 unit

GEOG-115 Introduction to Geographic Information Science 3 units

GEOL-100 Physical Geology: Dynamic Planetary Systems of SpaceShip Earth 4 units

GEOL-103 Environmental Geology: Natural Hazards and Disasters 3 units

GEOL-105 Historical Geology: Evolving Earth, Dinosaurs, and Homo Sapiens 4 units

GEOL-109 Geology of National Parks 3 units

GEOL-110 Oceanography 4 units

HORT-101 Horticulture Science 3 units

HORT-106 Pesticide Law & Regulations-Turf & Landscape 3 units

HORT-107 Arboriculture 3 units

MATH-140 Introduction to Statistics 4 units

or

MATH-140H Honors Introduction to Statistics 4 units

PHI1-105 Differential Equations 4 units

PHIL-103 Logic 3 units

or

PHIL-103H Honors Logic 3 units

PHIL-104 World Religions 3 units

PHIL-105 Introduction to Ethics 3 units

or

PHIL-105H Honors Introduction to Ethics 3 units

PS-102 Comparative Politics and Government 3 units

or

PS-102H Honors Comparative Politics and Government 3 units

SOCI-101 Principles of Sociology 3 units

or

SOCI-101H Honors Principles of Sociology 3 units

WATR-100 Introduction to Water/Wastewater Operations 1 unit

WATR-103 Water Treatment Plant Operations I & II 3 units

WATR-105 Water Treatment Plant Operations III, IV, & V 3 units

WATR-120 Wastewater Treatment Plant Operations I & II 3 units

WATR-122 Wastewater Plant Operations III, IV, & V 3 units

WATR-125 Laboratory Procedures for Water and Wastewater 3 units

WATR-130 Environmental Laws and Regulations 3 units

This emphasis is not intended to transfer. It is geared towards students intending to pursue careers in industrial environmental consulting, water or soil quality analysis, environmental engineering, or agricultural, fire, or wastewater technology fields. Emphasis is placed on obtaining hands-on training for students at wastewater treatment plants, water quality analysis industries, and turf management companies.