

# ENVIRONMENTAL SCIENCE

*Program Purpose: Students participating in the Environmental Science program will examine the role and impacts of humans in the ecosystem.*

Environmental Science is a multidisciplinary field covering the physical, biological, economical, and legal aspects of the environment.

## Transfer Information

Students planning to transfer need to consult with a counselor, prepare a Student Education Plan, and take advantage of the support services available in the University Transfer Center located in Fountain Hall, (805) 378-1536.

## ENSC Courses

### ENSC M01 Environmental Science 3 Units

*In-Class Hours:* 52.5 lecture

*C-ID:* ENVS 100

Examines the ways in which Earth operates. Includes understanding the mechanics of living and physical processes in biology, chemistry, physics, and the earth sciences. Emphasizes the relationship between humans and their environment, and the impact of technology on the global environment. Surveys energy, air, water, soil pollution, and conservation, and present sustainable solutions to these practices.

**Grade Modes:** Letter Graded, Student Option- Letter/Credit, Pass/No Pass Grading

**Field Trips:** May be required

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** 5

**Transfer Credit:** CSU, UC

**UC Credit Limitations:** None

**Cal-GETC** 5A

### ENSC M01L Environmental Science Lab 1 Unit

*In-Class Hours:* 52.5 laboratory

*Prerequisites:* ENSC M01 or concurrent enrollment

Explores environmental processes associated with life, Earth, and human society, including weather and climate, soil health, decomposition and cellular respiration, photosynthesis, population growth, food webs, biodiversity, the energy that powers life, the water cycle, water quality, and ocean acidification. Emphasizes scientific methodology and sampling methods to explore and test hypotheses in weekly labs.

**Grade Modes:** Letter Graded, Student Option- Letter/Credit, Pass/No Pass Grading

**Field Trips:** May be required

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** 5

**Transfer Credit:** CSU, UC

**UC Credit Limitations:** None

**Cal-GETC** 5C

### ENSC M02 Environment and Human Interactions 4 Units

*In-Class Hours:* 52.5 lecture, 52.5 laboratory

Examines the biological principles that govern ecosystems and help you analyze environmental problems that relate to the human population. Covers topics such as population growth, biotic communities, weather and climate, soil health, decomposition, cellular respiration, photosynthesis, the water cycle, energy, water quality, ocean acidification, the urban environment, environmental health, toxicology, and sustainable development. Includes the study of California's major plant communities and their local environments. Emphasizes statistical and scientific methods to explore and test hypotheses in weekly labs.

**Grade Modes:** Letter Graded, Student Option- Letter/Credit, Pass/No Pass Grading

**Field Trips:** May be required

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** 5

**Transfer Credit:** CSU, UC

**UC Credit Limitations:** None

**Cal-GETC** 5B, 5C

### ENSC M03 Energy Resources and Conservation 3 Units

*In-Class Hours:* 52.5 lecture

Surveys the energy resources that power our global civilization.

Includes conventional and alternative methods of energy production, transportation, decarbonization, and the physics of energy use.

Emphasizes the application of energy conservation in our economic and technological landscape, with attention to complexities that exist among the 3 Es: energy, the economy, and the environment.

**Grade Modes:** Letter Graded, Student Option- Letter/Credit, Pass/No Pass Grading

**Field Trips:** May be required

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** CSU, UC

**UC Credit Limitations:** None

### ENSC M07 Applied Solar Technology 3 Units

*In-Class Hours:* 52.5 lecture

Surveys the fundamentals of solar technology and photovoltaic systems with a focus on design, installation, and maintenance. Emphasizes mechanical and electrical integration, system sizing, array layout, mounting, related electric codes, workplace safety standards, and troubleshooting.

**Grade Modes:** Letter Graded, Student Option- Letter/Credit, Pass/No Pass Grading

**Field Trips:** May be required

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** CSU

**UC Credit Limitations:** None

**ENSC M07L Applied Solar Technology Lab 1 Unit***In-Class Hours:* 52.5 laboratory*Prerequisites:* ENSC M07 or concurrent enrollment

Provides hands-on learning of solar technology and photovoltaic systems. Emphasizes design, installation, and maintenance of residential and commercial projects.

**Grade Modes:** Letter Graded, Student Option- Letter/Credit, Pass/No Pass Grading

**Field Trips:** Will be required

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** CSU

**UC Credit Limitations:** None

**ENSC M80 Work Experience Education in Environmental Science 1-14 Units***In-Class Hours:* 54-756 paid cooperative*Enrollment Limitations:* Instructor approval and completion of or concurrent enrollment in one course within the discipline.

Provides on-the-job learning to develop effective work habits, attitudes, and career awareness in paid or unpaid work experience that are related to the discipline. Involves the development and documentation of learning objectives and the completion of a paper, presentation, and/or project. Includes both workplace supervisor and faculty adviser feedback and/or written evaluations.

**Catalog Notes:** To take this course, contact the Career Center; requires orientation session; students receive one unit of credit for each 54 hours of unpaid or paid work; Students may enroll in up to 14 semester units of work experience education per semester or term; there is no limit to the number of terms for which a student may enroll in work experience education.

**Grade Modes:** Letter Graded, Student Option- Letter/Credit

**Repeatable for Credit:** Course may be repeated up to a maximum of 14 units of credit.

**Field Trips:** May be required

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** CSU

**UC Credit Limitations:** None

**ENSC M122 Independent Study - Environmental Science 0.5-3 Units***In-Class Hours:* 26.25-157.5 laboratory*Prerequisites:* Completion of one course in Environmental Science and instructor approval

Allows independent study for students who wish to extend their knowledge of a particular area of environmental science through research and study. Utilizes an approved independent project. Includes one-on-one work with instructor. Interested students should contact an environmental science instructor for assistance in developing a contract for learning about a specific topic.

**Grade Modes:** Letter Graded, Student Option- Letter/Credit, Pass/No Pass Grading

**Field Trips:** May be required

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** CSU

**UC Credit Limitations:** None

**NONCREDIT ENSC Courses****ENSC M901 Introduction to Photovoltaics (PV) 0 Units***Advisories/Rec Prep:* MATH M05 and MATH M06 or MATH M07

Presents the sun as a resource in building design. Covers photovoltaics (PV) cells and modules, inverters, high-level PV system design, and the economics of PV. Aimed at the incumbent worker in the photovoltaics field who wishes to understand the underlying principles of photovoltaics. Safety in the photovoltaic workplace is covered in ENSC M903 OSHA 10 Construction Safety.

**Grade Modes:** Pass/No Pass Grading, Student Option- Letter/Credit

**Repeatable for Credit:** Unlimited.

**Degree Applicability:** Noncredit course; not applicable for degree credit

**AA/AS GE:** None

**Transfer Credit:** None

**ENSC M903 OSHA 10 Construction Safety 0 Units**

Examines Occupational Safety and Health Administration (OSHA) policies, procedures, and standards, as well as construction safety and health principles. Includes scope and applications of the OSHA construction standards. Emphasizes those areas that are the most hazardous, using OSHA standards as a guide.

**Grade Modes:** Pass/No Pass Grading, Student Option- Letter/Credit

**Repeatable for Credit:** Unlimited.

**Degree Applicability:** Noncredit course; not applicable for degree credit

**AA/AS GE:** None

**Transfer Credit:** None

**ENSC M971 Landscape Management - Plant Selection 0 Units**

Examines plant characteristics as identification features. Emphasizes landscape plant functional characteristics applicable to California landscapes, e.g. drought tolerance, fire resistance, erosion control. Examines plant cultural requirements in relation to landscape site conditions. Provides a baseline for developing landscape plant palettes based upon aesthetic features, functionality and site conditions.

**Grade Modes:** Pass/No Pass Grading

**Repeatable for Credit:** Unlimited.

**Field Trips:** May be required

**Degree Applicability:** Noncredit course; not applicable for degree credit

**AA/AS GE:** None

**Transfer Credit:** None

**ENSC M972 Financial Principles for Landscape Contracting 0 Units**

Discusses and illustrates financial management principles associated with the landscape design/build, maintenance and construction companies. Focuses on strategic planning, organization infrastructure, budgeting, pricing, estimating, job cost management, and proactive financial management.

**Grade Modes:** Pass/No Pass Grading

**Repeatable for Credit:** Unlimited.

**Field Trips:** May be required

**Degree Applicability:** Noncredit course; not applicable for degree credit

**AA/AS GE:** None

**Transfer Credit:** None

**ENSC M973 Management Principles for Landscape Contracting 0 Units**

Discusses and illustrates applications of business management practices to the landscape industry. Emphasizes human resource management in terms of federal employment compliance, employee motivation for productivity enhancement, professional development, and leadership qualities. Introduces the concept of lean management as a resource for increasing production efficiency, and profitability.

**Grade Modes:** Pass/No Pass Grading

**Repeatable for Credit:** Unlimited.

**Field Trips:** May be required

**Degree Applicability:** Noncredit course; not applicable for degree credit

**AA/AS GE:** None

**Transfer Credit:** None

- Environmental Science, Associate in Science for Transfer (<https://catalog.vcccd.edu/moorpark/programs-courses/environmental-science/environmental-science-ast/>)
- Environmental Studies, Associate in Arts (<https://catalog.vcccd.edu/moorpark/programs-courses/environmental-science/environmental-studies-aa/>)
- Environmental Science, Associate in Science (<https://catalog.vcccd.edu/moorpark/programs-courses/environmental-science/environmental-science-as/>)
- Landscape Management, Certificate of Completion (<https://catalog.vcccd.edu/moorpark/programs-courses/environmental-science/landscape-management-cert-of-completion/>)
- Photovoltaic Technology, Proficiency Award (<https://catalog.vcccd.edu/moorpark/programs-courses/environmental-science/photovoltaic-technology-pa/>)

**Dean**

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**Faculty**

Brian Swartz

**Counselors**

Daniel Aguilar, Samantha Zaldivar