



## Environmental Engineering, B.S.

Planning for 2005

The study of environmental engineering provides students with quantitative understanding of the physical, chemical, and biological principles that control air, water, and habitat quality and sustainability. Students majoring in this exciting field will be prepared to study and help solve important problems in all areas of water, air, and land resources management including watershed restoration, groundwater remediation and protection, hydrologic modeling and engineering, air resources monitoring and assessment, and contaminant mitigation.

Environmental engineers study the impact of human activities on the environment, ecosystems, and human health. Students will use this knowledge to gain expertise in the design, development, implementation, and assessment of engineering solutions to environmental problems. Environmental engineering is a highly multidisciplinary field of study, and one that combines a strong theoretical foundation with field studies, laboratory experiments, and analysis. Graduates will have opportunities for employment in public, private, and governmental organizations.

### Message from Jeff Wright Dean of Engineering

Our challenge at UC Merced is to provide students with an exceptional engineering education, while at the same time instilling in them skills for effective communication, self-education, retraining, and personal and professional management that prepares them not only to excel as engineers, but to pursue other professional opportunities as they arise. A focus on environmental science and engineering will allow UC Merced's students to engage in the solution of real-world problems in their community. Graduates in this major will have a strong background in both the theory and application of environmental engineering and therefore will be well prepared to pursue graduate studies or assume leadership roles in government agencies, non-government organizations or the private sector.

### High School Preparation

Recommended as part of or in addition to the A-G subject requirements: [www.ucop.edu/doorways](http://www.ucop.edu/doorways)

- Pre-Calculus and/or Calculus (1 year)
- Physics (1 year)
- Chemistry (1 year)

### Transfer Preparation

Recommended as part of or in addition to UC minimum admission requirements: [www.ucop.edu/pathways](http://www.ucop.edu/pathways)

- Chemistry (2 semesters)
- Calculus (2 semesters)
- Multivariate Calculus (1 semester)
- Linear Algebra (1 semester)
- Differential Equations (1 semester)
- Physics (2 semesters)
- Probability and Statistics (1 semester)
- No grade below a "C" in the above preparatory courses
- IGETC is Not Recommended

If a college does not offer linear algebra and differential equations as individual courses, students are advised to wait until they transfer to UC Merced.

### Please contact:

UC Merced Admissions/Relations with  
Schools and Colleges  
550 E. Shaw Avenue, Suite 105  
Fresno, CA 93710  
(559) 241-7474  
(559) 241-7480 fax  
(866) 270-7301 toll free in California  
[www.ucmerced.edu](http://www.ucmerced.edu)

### Service Learning Experience, Research Opportunities, & Internships

Students who chose to participate in UC Merced's Service Learning Initiative will obtain practical experience that complements their formal coursework by working with student teams that serve non-profit organizations under the direction of a faculty team mentor.

### Careers in Environmental Engineering

As described by the American Academy of Environmental Engineers, environmental engineering provides limitless opportunities. The area commonly described as environmental protection or management is very broad. However, the large majority of people employed in this general career area are scientists and engineers. Environmental engineering education offers students opportunities to work in any aspect of environmental protection, including air pollution

control, industrial hygiene, radiation protection, hazardous waste management, toxic materials control, water supply, wastewater management, storm water management, solid waste disposal, public health, and land management. And within each of these major categories are many sub-specialties.

Environmental engineering provides limitless opportunities as to type of work, for whom you work, and where you work. A career in environmental engineering provides a comfortable salary, job security, and considerable personal satisfaction. The kind of work you can do as an environmental engineer is very diverse. The following examples are illustrative, not comprehensive. You can be a researcher, a designer, a planner, an operator of pollution control facilities, a professor, a government regulatory agency official, a manager of programs, or be involved in professional societies. Your employer can be private consulting engineering firms, universities, private research firms, testing laboratories, government agencies of all types (federal, state and local), or all types of major corporations and private businesses.

Your work can take you around the world. It can be done inside and out; typically, most jobs will find you inside about 75 percent of the time and 25 percent outdoors. However, there are many instances of 100 percent either way. Because most pollution problems are located where there are concentrations of people, the largest number of job opportunities (your employer's location) will coincide with where the greatest number of people live. However, modern information technologies are operating to alter the above described historic pattern.

## About Your Professors

Faculty at UC Merced are nationally and internationally recognized researchers in their own fields, and they have also been selected for their excellence as teachers and as mentors.

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## UC Merced's Academic Schools

Campus majors and programs are organized into three academic schools; the **School of Engineering**, the **School of Natural Sciences**, and the **School of Social Sciences, Humanities, and Arts**. UC Merced is planning educational experiences designed to prepare well-educated people of the 21<sup>st</sup> Century for the workplace, for advanced education, and for leadership roles in their own communities. Graduates from UC Merced will find themselves better able to navigate and succeed in a complex world.

## College One

College One will be the home of UC Merced's general education program and will introduce students to the major domains of intellectual inquiry and help them build their college-level skills. What does the educated citizen of the 21<sup>st</sup> Century need to know? How will what students learn in UC Merced's classrooms connect with the world outside the University? What does it mean to be part of a research university? Students will be able to answer these questions, and many more, through their participation in College One.

### Special Note for Transfer Students

We encourage you contact us for more information:

Learn how to:

- Meet UC transfer admission requirements
- Prepare for you major
- Complete your IGETC or General Education
- Apply to UC Merced for 2005-06
- Get a Transfer Admission Guarantee to UC Merced

Consult your counselor, transfer center, or a UC Merced representative, for assistance in creating an academic plan for transfer to UC Merced.

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