Environmental Engineering and Environmental Quality Science

College of Engineering and Mines
Department of Civil and Environmental Engineering

M.S. Degree
Minimum Requirements for Degree: 30 credits

The environmental engineering and environmental quality science program offers an M.S. degree in environmental engineering for engineers and an M.S. degree in environmental quality science for scientists. Career opportunities for graduates include water supply, treatment and distribution, waste treatment, water and air pollution, solid waste disposal, hazardous and toxic waste management, pollution prevention and control, environmental impact evaluation, administration of environmental programs and regulatory compliance. Graduates are prepared to hold positions in government, industry, consulting or academia.

Graduate Program—Environmental Engineering, M.S. Degree

1. Complete the following admission requirements:
   a. Complete the equivalent of a UAF course in basic computer techniques.
   b. Complete the TOEFL exam (only non-native English speakers, minimum score 575 for the paper test, or 213 for the computerized test).
   c. Complete a B.S. in engineering from an ABET accredited institution (GPA of 3.0 or higher).
2. Complete the general university requirements (page 168).
3. Complete the master's degree requirements (page 172).
4. Complete the thesis or non-thesis requirements for one of the concentration areas listed below:

Graduate Program—Environmental Quality Science, M.S. Degree

1. Complete the following admission requirements:
   a. Complete the equivalent of 1 year of UAF courses in calculus and general chemistry, and 1 semester of computer techniques.
   b. Complete the TOEFL exam (only non-native English speakers, minimum score 575 for the paper test, or 213 for the computerized test).
   c. Complete a B.S. in science from an accredited institution (GPA of 3.0 or higher).
2. Complete the general university requirements (page 168).
3. Complete the master's degree requirements (page 172).
4. Complete the thesis or non-thesis requirements for one of the concentration areas listed below:

Concentrations for Environmental Engineering and Environmental Quality Science: Environmental Contaminants, Environmental Science and Management, Water Supply and Waste Treatment

Environmental Contaminants

a. Complete the following:
   CS 663—Groundwater Dynamics .................................................. 3

Environmental Science and Management

a. Complete the following courses:
   ENVE 641—Aquatic Chemistry .................................................. 3
   ENVE 645—Unit Processes—Chemical and Physical ................ 3
   ENVE 646—Unit Processes—Biological .................................. 3
   ENVE 647—Biotechnology ...................................................... 3
   ENVE 649—Hazardous and Toxic Waste Management ........... 3
   ENVE 650—Seminar* (1) .......................................................... 2
   ENVE 653—Measurements Laboratory .................................. 1
   ENVE 698—Project ................................................................ 3
   or ENVE 699—Thesis ............................................................. 6
   Approved electives** ............................................................. 6-9
b. Minimum credits required ..................................................... 30

Water Supply and Waste Treatment

a. Complete the following:
   ENVE 641—Aquatic Chemistry .................................................. 3
   ENVE 645—Unit Processes—Chemical and Physical ................ 3
   ENVE 646—Unit Processes—Biological .................................. 3
   ENVE 647—Biotechnology ...................................................... 3
   ENVE 650—Seminar* (1) .......................................................... 2
   ENVE 653—Measurements Laboratory .................................. 1
   ENVE 698—Project ................................................................ 3
   or ENVE 699—Thesis ............................................................. 6
   Approved electives** ............................................................. 6-9
b. Complete one of the following:
   ENVE 643—Air Pollution Management .................................. 3
   ENVE 648—Solid Waste Management ................................. 3
   ENVE 649—Hazardous and Toxic Waste Management ........... 3
c. Minimum credits required ..................................................... 30

* Complete 2 semesters at 1 credit each.
** Electives as approved by the student's committee (6 credits for thesis option; 9 credits for project option).