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| **Master of Science in Environmental Science and Management** |
| * With thesis (30 credits): Course requirements vary depending on student’s emphasis areas; elective courses are selected with approval of the student’s advisor; and 6 credits of thesis. * Non-thesis (30 credits): Course requirements vary depending on student’s emphasis areas; elective courses are selected with approval of the student’s advisor, and 3 credits of technical report.   Note: At least 15 credits of 6000 level classes must be taken. |
| **List of Approved Required Graduate Courses #** |
| ENVE 5508 Water and Wastewater Quality, 3 cr.  ENVE 5510 Introduction to Environmental Engineering, 3 cr. ENGR 6655 Environmental Topics Seminar, 1 cr.\*  ENGR 6650 Thesis, 1-6 cr.\*\* or  ENGR 6660 Special Project, 3 cr.\*\*  *Chemistry Emphasis*  CHEM 5533 Environmental Chemistry, 2 cr.  CHEM 5537 Environmental Chemistry Laboratory, 1 cr.  *Environmental Engineering Emphasis*  ENVE 5504 Environmental Risk Assessment, 3 cr.  *Mathematics Emphasis*  MATH 5521 Advanced Engineering Mathematics I, 3 cr. MATH 5522 Advanced Engineering Mathematics II, 3 cr. MATH 5565 Partial Differential Equations, 3 cr.  or  MATH 6664 Methods of Applied Mathematics I, 3 cr. MATH 6665 Methods of Applied Mathematics I, 3 cr.  \* Course must be completed two times in order to satisfy requirement. A student may select a seminar other than ENGR 6655 offered in student’s interdisciplinary discipline with approval of the advisory committee.  \*\* Students will register for thesis or non-thesis "Special Project" credits in the home department of the thesis/non-thesis project advisor. Some departments' "Special Project" courses may have a different title and/or course number. |
| **List of Approved Graduate Elective Courses ##** |
| *Chemistry Emphasis*  CHEM 5507 Inorganic Chemistry II, 2 cr. CHEM 6601 Seminar, 1 cr.  CHEM 6609 Advanced Inorganic Chemistry, 3 cr. CHEM 6630 Advanced Analytical Chemistry, 3 cr. CHEM 6621 Organic Reactions, 3 cr.  CHEM 6655 Advanced Physical Chemistry, 3 cr. CHEM 6671 Advanced Organic Chemistry, 3 cr.  *Environmental Engineering Emphasis*  ENVE 5530 Air Pollution and Solid Waste, 3 cr.  ENVE 6611 Treatment Systems for Environmental Engineering, 3 cr. ENVE 6615 Water Quality Modeling and Control, 3 cr.  ENVE 6617 Environmental Systems Engineering and Design, 3 cr.  ENVE 6629 Physical and Chemical Treatment of Water and Wastewater, 3 cr. ENVE 6630 Air Pollution and Control, 3 cr.  CE 5525 Water Resources, 3 cr.  CE 5535 Hydraulic Design, 3 cr.  CE 5554 Basic Engineering Geology, 3 cr. CE 5555 Geologic Data Methods, 3 cr.  CE 5560 Project Management, 3 cr.  CE 5599 Energy and the Environment, 3 cr. |

CE 6626 Introduction to Computational Fluid Dynamics, 3 cr.

*Geosciences Emphasis*

GEOL 5502 Geomorphology, 4 cr. GEOL 5502L Geomorphology Lab, 0 cr.

GEOL 5504 Advanced Geographic Information Systems, 3 cr. GEOL 5503 Principles of Geographical Information systems, 3 cr. GEOL 5506 Environmental Geology, 3 cr.

GEOL 5507 GPS Application in Research, 3 cr. GEOL 5509 Remote Sensing, 3 cr.

GEOL 5515 Quaternary Global Change, 3 cr. GEOL 5516 Global Environmental Change, 3 cr. GEOL 5520 Principles of Geochemistry, 3 cr.

GEOL 5530 Principles of Hydrogeology, 3 cr. GEOL 5554 Basic Engineering Geology, 3 cr. GEOL 5583 Earthquake Engineering, 3 cr.

GEOL 6602 Advanced Geomorphology, 3 cr.

GEOL 6608 Geostatistics Spatial Data Analysis and Modeling, 3 cr. GEOL 6617 Environmental Geochemistry, 3 cr.

GEOL 6625 Quantitative Geochemistry Lab, 3 cr. GEOL 6630 Advanced Hydrogeology, 3 cr.

# Other graduate credits can be taken with the approval of the advisor and/or the advisory committee.

## Approved CE and ENVE courses may also be used as approved elective courses.

Revised October 10, 2022