

# M.S. in Environmental Engineering - Thesis Option (Plan A)

This summary is intended to assist students in planning their program of study and presents commonly needed information in this regard. General University degree requirements are fully enumerated in the Graduate School Policies and Procedures. The information presented here is a combination of the general requirements of the Graduate School and specific departmental requirements.

## General Requirements

The Degree of M.S., Environmental Engineering is awarded through either the Civil or Chemical and Biological Engineering Departments, depending on the student's background and professional focus. Degree candidates correspondingly must meet the requirements of the appropriate Department as enumerated below, as well as the requirements of the Graduate School. Each student's graduate adviser and committee will work with the student to prepare a Program of Study listing the courses the student will take. This program must be submitted to The Graduate School before the end of the second semester of study.

Common requirements for both Departments include:

- Minimum 30 credits total (including thesis credits)
- Minimum 20 credits coursework (4xx or 5xx-level)
- Minimum 10 credits: Master's Thesis (ECHM 590) or Master's Thesis (EBIO 590) or Master's Thesis (EENV 590)
- Maximum of 9 credits taken at the 4xx level may be included in the program of study
- Courses graded below C- cannot be used to satisfy degree requirements
- Three credits (minimum) registration required during term of:
  - Comprehensive examination and thesis defense
  - Graduation (or 1 credit with *in absentia* request on file)

Additional specific requirements by department are listed below.

## Civil Engineering Department Specific Requirements

Curriculum requirements for the M. S. degree in Environmental Engineering in the Civil Engineering Department are highly individualized and established in consultation with and approved by the student's graduate committee. The courses listed below are often considered when establishing the program of study for a particular student. There are also many other courses offered at MSU that may support a student's academic goals.

ECIV 529	Groundwater Contamination	3
ECIV 531	River Modelling	3
EENV 441	Natural Treatment Systems	3
EENV 562	Water Treatment Process/Design	3
EENV 563	Wastewater Treat Proc/Design	3
EENV 590	Master's Thesis (Required)	10
EENV 591	Special Topics	1-3
EENV 592	Independent Study	1-3
EENV 598	Internship	2
ECHM 503	Thermodynamics	3
ECHM 510	Reaction Engineering/Modeling	3
ECHM 533	Transport Phenomena	3

EM 560	Finite Elem Analys in Engr	3
EBIO 566	Fundamentals of Biofilm Engr	3

## Chemical and Biological Engineering Department Specific Requirements

Master of Science in Environmental Engineering degree requirements through the Chemical and Biological Engineering Department are:

Requirements

ECHM 594	Seminar (may be taken twice for credit)	1
ECHM 503	Thermodynamics	3
ECHM 533	Transport Phenomena	3
EENV 561	Environ Eng Reactor Theory	3
or ECHM 510	Reaction Engineering/Modeling	
or EBIO 566	Fundamentals of Biofilm Engr	
EENV 562	Water Treatment Process/Design *	3
or EENV 563	Wastewater Treat Proc/Design	
EENV 590	Master's Thesis	1-10

### Additional Recommended Courses

ECIV 529	Groundwater Contamination	3
EENV 534	Environmental Engineering Investigation	3

\* Substitution for this course requirement may be approved by the committee after carefully considering the professional goals of the student.

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