

M.S. Tracks in Environmental Sustainability and Resilience

M.S. Track in Environmental Sustainability and Resilience - Thesis Option 1

Core Requirements (19 credits)

EVEN 6345 Environmental Sustainability and Resilience (3 credits)

EVEN 6347 Data Science for Next Generation of Community Researchers (3 credits)

EVEN 6349 Graduate Professional Skills Development Lab (3 credits)

EVEN 6102 Environmental Engineering Graduate Seminar (1 credit)

Choose at least two (2) courses from the following: (6 credits)

- EVEN 6308 - Fundamentals of Solid and Hazardous Waste Engineering
- EVEN 6309 - Fundamentals of Air Quality and Pollution Control
- EVEN 6316 - Fundamentals of Environmental Biotechnology
- EVEN 6319 - Chemical Principles for Environmental Engineering Design
- EVEN 6325 - Physical-Chemical Water Treatment Processes

Choose at least one environmental modeling or data course from the following: (3 credits)

- EVEN 6318 - Environmental Systems Modeling (or other EVEN modeling course)
- EVEN 6332 – Environmental Data Analysis
- PSYC/SOCI - 5310 Data Analysis in Social Research
- MEEN 6321 - Advanced Engineering Data Analysis and Optimization Methods

In addition to the above, the following course must be taken twice for a total of six (6) semester credit hours:

EVEN 5306 Thesis

Elective Courses (6 credits)

TOTAL: 31 credits

M.S. Track in Environmental Sustainability and Resilience - Project Option II

Core Requirements (19 credits)

EVEN 6345 Environmental Sustainability and Resilience (3 credits)

EVEN 6347 Data Science for Next Generation of Community Researchers (3 credits)

EVEN 6349 Graduate Professional Skills Development Lab (3 credits)

EVEN 6102 Environmental Engineering Graduate Seminar (1 credit)

Choose at least two (2) courses from the following: (6 credits)

- EVEN 6308 - Fundamentals of Solid and Hazardous Waste Engineering
- EVEN 6309 - Fundamentals of Air Quality and Pollution Control

- EVEN 6316 - Fundamentals of Environmental Biotechnology
- EVEN 6319 - Chemical Principles for Environmental Engineering Design
- EVEN 6325 - Physical-Chemical Water Treatment Processes

Choose at least one environmental modeling or data course from the following: (3 credits)

- EVEN 6318 - Environmental Systems Modeling (or other EVEN modeling course)
- EVEN 6332 – Environmental Data Analysis
- PSYC/SOCI - 5310 Data Analysis in Social Research
- MEEN 6321 - Advanced Engineering Data Analysis and Optimization Methods

In addition to the above:

EVEN 5305 Graduate Research Project (3 credits)

Elective Courses (15 credits)

TOTAL: 37 credits

M.S. Track in Environmental Sustainability and Resilience - Course Option III

Core Requirements (19 credits)

EVEN 6345 Environmental Sustainability and Resilience (3 credits)

EVEN 6347 Data Science for Next Generation of Community Researchers (3 credits)

EVEN 6349 Graduate Professional Skills Development Lab (3 credits)

EVEN 6102 Environmental Engineering Graduate Seminar (1 credit)

Choose at least two (2) courses from the following: (6 credits)

- EVEN 6308 - Fundamentals of Solid and Hazardous Waste Engineering
- EVEN 6309 - Fundamentals of Air Quality and Pollution Control
- EVEN 6316 - Fundamentals of Environmental Biotechnology
- EVEN 6319 - Chemical Principles for Environmental Engineering Design
- EVEN 6325 - Physical-Chemical Water Treatment Processes

Choose at least one environmental modeling or data course from the following: (3 credits)

- EVEN 6318 - Environmental Systems Modeling (or other EVEN modeling course)
- EVEN 6332 – Environmental Data Analysis
- PSYC/SOCI - 5310 Data Analysis in Social Research
- MEEN 6321 - Advanced Engineering Data Analysis and Optimization Methods

Elective Courses (18 credits)

TOTAL: 37 credits

List of Elective Course Options

- EVEN 5303* - Advanced Topics in Environmental Engineering (3 credits)
- EVEN 6304* - Environmental Engineering Internship (1-3 credits, variable)
- EVEN 6311 - Air Quality Modeling (3 credits)
- EVEN 6312 - Surface Water Quality Modeling (3 credits)
- EVEN 6313 – Groundwater Contaminant Transport Modeling (3 credits)
- EVEN 6320 - Environmental Risk Assessment and Management of Risk (3 credits)
- EVEN 6329 - Environmental Monitoring and Measurements (3 credits)
- EVEN 6340 - Decision Sciences for Environmental Systems (3 credits)
- EVEN 6341 - Environmental Informatics (3 credits)
- EVEN 6342 - Engineering Optimization for Environmental Systems (3 credits)
- EVEN 6343 - Environmental Management Systems (3 credits)
- EVEN 6354 - Environmental Regulations and Policy (3 credits)
- EVEN 6356 - Special Topics in Environmental Engineering (3 credits)
- EVEN 6356 – Special Topic - Environmental Exposure Assessment (3 credits)
- IEEN 5320 - Fundamentals of Sustainable Engineering (3 credits)
- IEEN 5327 - Advanced Engineering Project Management (3 credits)
- PSYC 5331 - Lifestyles and Career Development (3 credits)
- SOCI 5303 - Advanced Research Methods (3 credits)
- EDBL 6393- Advanced Topics: Posthumanism (3 credits)
- EDBL 6393- Curriculum Theory (3 credits)
- GEOL 5312 – Geographical Information System (3 credits)
- GEOL 5352 – Remote Sensing (3 credits)
- RAMT 5351 A Systems Approach to Natural Resources Problem Solving (3 credits)

*MS students receiving funding from any active research grant or project can take internship/Co-op using either EVEN 6304 or EVEN 5303 only once during their study after three semesters enrolled in the M.S. program with the approval of their research advisor and the Department Chair.

It is a new track in the M.S. Program of Environmental Engineering as proposed in the Graduate Research Traineeship project funded by the National Science Foundation.