



**Sample Course Plan for Coursework MS in Environmental Engineering**

**Assumed student background**

The sample course plan shown below was designed assuming that a student has taken as an undergraduate (as a minimum) the following:

1. CEE 3501 (Fundamentals of Environmental Engineering), or CEE3503 (Introduction to Environmental Engineering), or equivalent;
2. BL 3310 (Environmental Microbiology), or equivalent;
3. CEE 4501 (Environmental Engineering Chemical Processes), or equivalent;
4. CEE 4502 (Wastewater Treatment Principles and Design), or equivalent;
5. CEE 4503 (Drinking Water Treatment Principles and Design), or equivalent; and
6. CEE 4504 (Air Quality Engineering and Science), or equivalent.

If not previously taken, CEE 3501/3503 and at least three of these courses should replace 12 out of the 15 credits of **Specialization** courses because they are necessary background and/or prerequisites for other courses listed.

**Requirements:** Minimum 30 credits (12 maximum credits at 3000-4000 level; 18 credits at 5000 level)

**Core Requirement (3 credits)**

CEE 5501 – Environmental Process Engineering

**Credits**

3

**Semester**

Fall

**Differentiation (12 credits)**

*One course from:*

CEE 5502 – Biological Treatment Processes

3

Fall, Spring

CEE 5503 – Physical-Chemical Treatment Processes

3

Spring

*One course from:*

CEE 5504 – Modeling & Management of Lakes & Rivers

3

Spring

CEE 5520 – Introduction to Hydrodynamic Modeling

3

Spring

CEE 5630 – Advanced Hydrology

3

Fall (alt)

CEE 5800 – Mathematical Modeling of Earth Systems

3

Fall

*One course from:*

CEE 5508 – Global Biogeochemistry

3

Fall (alt)

CEE 5509 – Transport & Transf. of Org. Pollutants

3

Fall (alt)

CEE 5512 – Applied Boundary Layer Meteorology

3

Fall (alt)

CEE 5515 – Atmospheric Chemistry

3

Spring

CEE 5517 – Soil Biogeochemistry

3

Spring (alt)

CEE 5518 – Aquatic Biogeochemistry

3

Fall (alt)

CEE 5519 – Atmospheric Biogeochemistry

3

Fall, Spr (alt)

*One course from:*

CEE 5640 – Stormwater Management and LID

3

Summer

CEE 5665 – Stream Restoration

3

Fall, Spring

CEE 5666 – Water Resources Planning and Management

3

On Demand

CEE 5993 – Field Engineering in the Developing World

2

On Demand

**Specialization (15 credits)**

**Taken from the courses listed above and not used for Differentiation, and those listed below:**

*Additional CEE Graduate Electives (besides those listed above)*

CEE 4505 – Surface Water Quality Engineering

3

Fall

CEE 4506 – Application of Sustainability Principles	3	Spring
CEE 4507 – Water Distribution & Wastewater Collection	3	Spring
CEE 4511 – Solid & Hazardous Waste Engineering	3	Spring
CEE 4515 – Atmospheric Chemistry	3	Spring
CEE 4518 – Aquatic Biogeochemistry	3	Fall (alt)
CEE 4528 – Global Biogeochemistry	3	Fall (alt)
CEE 5510 – Practical Applications & Analytical Techniques	Variable to 3	Fall, Summer
CEE 5560 – Advanced Topics in Air Quality Engineering	Variable to 4	Fall, Spr, Sum
CEE 5561 – Advanced Topics in Biological Processes	Variable to 4	Fall, Spr, Sum
CEE 5562 – Advanced Topics in Phys.-Chem. Processes	Variable to 4	Fall, Spr, Sum
CEE 5563 – Advanced Topics in Surf. Water Quality Engrg.	Variable to 4	Fall, Spr, Sum
CEE 5590 – Special Topics in Environmental Engineering	Variable to 3	Fall, Spr, Sum
CEE 5690 – Special Topics in Water Resources	Variable to 3	Fall, Spr, Sum
CEE 3620 – Water Resources Engineering	4	Fall, Spr, Sum
CEE 3710 – Uncertainty Analysis in Engineering	3	Fall
CEE 4620 – River and Floodplain Hydraulics	3	Fall
CEE 4640 – Stormwater Management and LID	3	Summer
CEE 4665 – Stream Restoration	3	Spring
CEE 5620 – Stochastic Hydrology	3	On demand

*Sample Non-CEE Graduate Electives*

BL 4010 – Biochemistry I	3	Fall, Summer
BL 4020 – Biochemistry II	3	Spr, Summer
BL 4030 – Molecular Biology	3	Fall, Summer
BL 4120 – Environmental Remediation & Toxicology	3	Fall (alt)
BL 4450 – Limnology	3	Spring
BL 4840 – Molecular Biology Techniques	3	Fall
BL 5030 – Molecular Biology	3	Fall, Summer
BL 5120 – Environmental Remediation & Toxicology	3	Fall (alt)
CH 3510 – Physical Chemistry I	3	Fall, Spr, Sum
CH 3511 – Physical Chemistry Lab I	2	Fall, Spr, Sum
CH 4210 – Instrumental Analysis (lecture)	3	Fall
CH 4212 – Instrumental Analysis (lab)	5	Fall
CH 4430 – Intermediate Organic Chemistry	3	Fall
CM 4710 – Biochemical Processes	3	Fall (alt)
CM 5200 – Advanced CM Thermodynamics	3	Fall
CM 5300 – Advanced Transport Phenomena	3	Fall, Spring
ENG/SS 5510 – Sustainable Futures I	3	Fall
ENG/SS 5520 – Sustainable Futures II	3	Spring
FW 4220 – Wetlands	4	Fall
FW 4370 – Forest and Landscape Hydrology	3	Spring
FW 4540 – Remote Sensing of the Environment	3	Fall
FW 5115 – Restoration Ecology	3	Spring (alt)
GE 3850 – Geohydrology	3	Fall, Spring
GE 4250 – Fundamentals of Remote Sensing	3	Spring
GE 4800 – Groundwater Engineering	3	On Demand

***Disclaimer:*** This course plan is meant to serve as a sample for a student interested in pursuing a coursework-only MS degree in environmental engineering. This plan may not be appropriate for all students, nor is it necessary for a student to follow this schedule to earn a coursework-only degree. Student-specific goals and prior education must be considered and consultation with faculty members is required. Consult with instructors before enrolling in courses that are outside of the Department to ensure that the course will be consistent with your goals and background since sometimes other courses may provide more value to the student. **All MS degree requirements and rules set forth by the Department and the Graduate School must be met in order for a student to finish the program.**