



### Course Plan for Environmental Engineering Certificate

Applicant Name: \_\_\_\_\_

Major: \_\_\_\_\_

Advisor: \_\_\_\_\_

Date of Graduation (Anticipated): \_\_\_\_\_

Required Courses	Semester Completed (or anticipated completion)	Grade (if completed)
<b>Foundation Course:</b> Course # and Name: Instructor (if completed):		
<b>Biology Course:</b> Course # and Name: Instructor (if completed):		
<b>Chemistry Course:</b> Course # and Name: Instructor (if completed):		
<b>Focus Area Course:</b> Course # and Name: Instructor (if completed):		

Per university requirements, only 9 credits of the required 12 credits for the certificate are allowed used towards the student's engineering degree. Please indicate which course (3 cr) listed in the course plan you will NOT be using towards your engineering degree.

Course

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*Note: Course plan can be revised with approval of the advisor and the certificate director.*

*Revisions must be re-submitted online through the Environmental Engineering Certificate Application portal.*

*I confirm that I met with the above-named student to discuss their course plan for the environmental engineering certificate. The courses listed above reflect our discussions. I also confirm that the student is in good academic standing in the UK College of Engineering.*

Advisor Signature: \_\_\_\_\_

Date: \_\_\_\_\_

## **Courses for Environmental Engineering Certificate**

The Environmental Engineering undergraduate certificate involves a total of 12 credit hours (200-level or greater). To complete the certificate, student must take the foundation course (CE 351 Introduction to Environmental Engineering), one biology course, one chemistry course, and one course from a focus area. Per university requirements, only 9 credits of the required 12 credits for the certificate are allowed used towards the student's engineering degree. Course substitutions will be considered on a case-by-case basis and must be approved by the Certificate Director.

### **Foundation Course (3 credit):**

CE 351 Introduction to Environmental Engineering (Spring, Fall, Summer)

### **Biology Course (Choose one course, 3 credit):**

BIO 308 or 208 Principles of Microbiology (Spring, Fall, Summer)

CE 555 Microbial Aspects of Environmental Engineering (Fall)

PLS 566 Soil Microbiology (Spring)

### **Chemistry (Choose one course, 3 credit):**

CHE 226 Analytical Chemistry (Spring, Fall)

CHE 230 Organic Chemistry I (Spring, Summer, Fall)

CHE 236 Survey of Organic Chemistry (Spring, Fall)

CHE 565 Environmental Chemistry

### **Focus Areas (Choose one course, 3 credit):**

<i>Natural Water Systems</i>	BAE 532/CE 542 Introduction to Stream Restoration BAE 535/MNG 564 Environmental Control Systems Design and Reclamation CE 547/BAE 547 Watershed Sedimentation
<i>Water and Wastewater Treatment</i>	BAE 435G Waste Management for Biosystems CE 551 Water and Wastewater Treatment Engineering CME 580 Design of Rate and Equilibrium Processes for Water Pollution CME 599 Topics in Chemical Engineering CME 395 Independent Research Course (Environmental related) CME 599 Membrane Science and Technology
<i>Stormwater</i>	BAE 599 Topics in Biosystems Engineering – Low Impact Development (New course application forthcoming)
<i>Air</i>	MNG 341 Mine Ventilation MNG 541 Computerized Design of Mine Ventilation Systems
<i>Energy</i>	CE 553 Environmental Consequences of Energy Production CME 523 Concepts, Assessment Tools and Methods in Sustainable Power and Energy
<i>Environmental Health and Remediation</i>	CE 599 Subsurface Remediation Engineering (New course application forthcoming)
<i>Health and Safety</i>	MNG 322 Mine Safety and Health Management Processes (Note: 2 credit course, additional course credit must be satisfied)
<i>Chemistry</i>	CHE 565 Environmental Chemistry
<i>Biology</i>	CE 555 Microbial Aspects of Environmental Engineering
<i>Regulations</i>	AEC 445G Introduction to Resource/Environmental Economics
<i>Misc.</i>	prefix-395 Independent Research (e.g. Study) Courses, must be approved by Director prefix-599 Special Topics Engineering Courses, must be approved by Director

Note: Course substitutions will be considered on a case-by-case basis and must be approved by the Certificate co-directors.