CASE SCHOOL OF ENGINEERING
CASE WESTERN RESERVE UNIVERSITY

Students must take the equivalent of the following courses at their liberal arts college before entering CWRU

General Requirements for Dual Degree Program		
Course	**Course Title**	**Semester Credit Hours**
MATH		
MATH 121	Calculus for Science & Engineering I	4
MATH 122	Calculus for Science & Engineering II	4
MATH 223	Calculus for Science & Engineering III	3
MATH 224	Elementary Differential Equations	3
CHEMISTRY		
CHEM 105	Principles of Chemistry I	3
CHEM 106	Principles of Chemistry II	3
CHEM 113	Principles of Chemistry Laboratory	2
PHYSICS		
PHYS 121	General Physics I-Mechanics	4
PHYS 122	General Physics II-Electricity and Magnetism	4
COMPUTER PROGRAMMING		
Students must take **one** of the following: **EECS 132** should be taken by Computer Engineering majors and computer tracks of BME (Biomedical Computing and Analysis) All other majors should take **ENGR 131**		
ENGR 131	Elementary Computer Programming (MATLAB)	3
EECS 132	Introduction to Programming in Java	3

Sample Course Sequence for Environmental Engineering

NOTE: Before entering CWRU, it is highly recommended that students have taken **ENGR 200** (Statics and Strength of Materials, 3 credits). This can be taken in the summer prior to the first fall semester or at the liberal arts college, if equivalent course is available. An additional year may be required to complete the BSE degree otherwise.

Summer semester/any semester

Course	Course Title	Semester Credit Hours
EMAE 181	Dynamics	3
ENGR 210	Intro to Circuits and Instrumentation	4

The two courses listed above can be taken during the summer or added onto any semester as long as they are taken before graduation. Students should coordinate with their advisor to schedule them.

Year 1 Fall

Course	Course Title	Semester Credit Hours
ECIV 160	Surveying and Computer Graphics	3
ECIV 310	Strength of Materials	3
ECIV 320	Structural Analysis I	3
EMAE 250	Computers in Mechanical Engineering	3
ENGR 145	Chemistry of Materials	4
		16

Year 1 Spring

Course	Course Title	Semester Credit Hours
ECIV 322	Structural Design I	3
ECIV 330	Soil Mechanics	4
ECIV 351	Engineering Hydraulics and Hydrology	3
ECIV 368	Environmental Engineering	3
ENGR 225	Thermodynamics, Fluid Dynamics, Heat and Mass Transfer	4
		17

Year 2 Fall

Course	Course Title	Semester Credit Hours
ECIV 211	Civil Engineering Materials	3
ECIV 340	Construction Management	3
ECIV 398	Civil Engineering Senior Project	3
	Approved Elective	3
	Approved Elective	3
		15

Year 2 Spring

Course	Course Title	Semester Credit Hours
ECIV 360	Civil Engineering Systems	3
ENGL 398	Professional Communication for Engineers	2
ENGR 398	Professional Communication for Engineers	1
	Approved Natural Science Elective	3
	Approved Elective	3
	Approved Elective	3
		15

Note: *The course sequence serves as an example of the classes necessary to complete the Dual Degree Program. Courses and the semesters taken will be based on the student's transfer credit and discussion with the Case Western Reserve University faculty advisor.*