

# B.S. in Civil Engineering

## Suggested Plan of Study

Students should be aware that several courses in each academic year may have prerequisites and/or corequisites. Check the course descriptions at the back of this catalog before registering for classes to ensure requisite sequencing.

See the Common Year One outline in the Engineering Fundamentals Program Introduction.

### Year One

	Credits
See the Common Year One outline in the College of Engineering introduction.	33
<b>Credits Subtotal</b>	<b>33.0</b>

### Year Two

BIO 120	Foundations of Biology I	3
or GEO 215	Introduction to Geoscience	
or PS 224	Astronomy	
BIO 120L	Foundations of Biology I Laboratory	1
or PS 224L	Introductory General Astronomy Laboratory	
CIV 140	Engineering Measurements	1
CIV 140L	Engineering Measurements Laboratory	1
CIV 222	Introduction to Environmental Engineering	3
COM 221	Technical Report Writing	3
ES 201	Statics	3
ES 202	Solid Mechanics	3
MA 243	Calculus and Analytical Geometry III	4
MA 345	Differential Equations and Matrix Methods	4
PS 160	Physics for Engineers II	3
<b>Credits Subtotal</b>		<b>29.0</b>

### Year Three

CIV 304	Structural Analysis	3
CIV 307	Civil Engineering Materials I	3
CIV 307L	Civil Engineering Materials I Laboratory	1
CIV 311	Introduction to Transportation Engineering	3
CIV 320	Soil Mechanics	3
CIV 320L	Soil Mechanics Laboratory	1
	Civil Structures Elective	3
COM 219	Speech	3
ES 204	Dynamics	3
	Civil Environmental Engineering Elective	3
	Civil Transportation Elective	3
	Humanities or Social Sciences Lower-Level or Upper-Level Elective	3
<b>Credits Subtotal</b>		<b>32.0</b>

### Year Four

CIV 437	Water Resources and Hydrology	3
CIV 471	Senior Design Preliminary Design	3
CIV 481	Senior Design Final Design	4
CIV 490	The Civil Engineering Profession	1
MA 412	Probability and Statistics	3
ES 309	Fluid Dynamics	3
	Civil Geotechnical Elective	3
	Civil Engineering Electives	9
	Humanities or Social Sciences Upper-Level Elective	3

Technical Electives	3
<b>Credits Subtotal</b>	<b>35.0</b>
<b>Credits Total:</b>	<b>129.0</b>

## Course List

### Civil Transportation Electives

CIV 330	Computer Applications in Transportation	2
CIV 443	Traffic Data Collection Method and Computer Application in Traffic Engineering	3
CIV 447	Airport Design I	3
CIV 457	Airport Design II	3
CIV 499	Directed Design Project	1-6

### Civil Structures Electives

CIV 431	Reinforced Concrete Design	3
CIV 432	Structural Steel Design	3
CIV 499	Directed Design Project	1-6

### Civil Geotechnical Electives

CIV 421	Geotechnical and Foundation Engineering	3
CIV 422	Design of Pavement Structures	3
CIV 424	Rehabilitation of Pavement Structures	3
CIV 499	Directed Design Project	1-6

### Civil Environmental Electives

CIV 415	Sustainable Food Production and Aquaponics	3
CIV 417	Air Pollution	3
CIV 499	Directed Design Project	1-6

### Technical Electives

All CIV courses are acceptable. Other courses are to be selected from an approved list of courses maintained by the Civil Engineering program coordinator.

Up to 3 credits of Co-operative education may be used as Technical elective credits with department or Co-op advisor approval.