

# CIVIL ENGINEERING MAJOR, B.S.

Course	Title	Credits
<b>General Requirements</b>		
General Education ( <a href="https://catalog.uwplatt.edu/undergraduate/degree-requirements/bachelor-of-science-degree-core-curriculum/">https://catalog.uwplatt.edu/undergraduate/degree-requirements/bachelor-of-science-degree-core-curriculum/</a> )		26
<b>Required Courses</b> <sup>1,2</sup>		
MATH 2640	Calculus and Analytic Geometry I	4
MATH 2740	Calculus and Analytic Geometry II	4
MATH 2840	Calculus and Analytic Geometry III	4
MATH 3630	Differential Equations I	3
MATH 4030	Statistical Methods with Applications	3
CHEMSTRY 1450	Chemistry for Engineers	5
PHYSICS 2240	General Physics I	4
ENERGY 3320	Understanding Electric Power Systems	2-4
or PHYSICS 2340	General Physics II	
GEOLOGY 3130	Geology for Engineers	3-4
or GEOLOGY 1140	Physical Geology	
GENENG 1030	Introduction to Engineering Projects	1
<b>Career Development - Choose one of the following:</b>		<b>2-3</b>
BUSADMIN 2010	Business Communication	
BUSADMIN 2330	Leadership and Management	
CIVILENG 3950	Civil and Environmental Engineering Cooperative Education	
CIVILENG 4680	Cycling Infrastructure in the Netherlands (only if not used as a technical elective)	
CIVILENG 4940	Undergraduate Research	
CIVILENG 4990	Independent Study	
ENGLISH 3000	Technical Writing	
ENERGY 3580	Principles of Project Management and Sustainable Development	
ENVENG 4940	Undergraduate Research	
AETM 1010	Principles of Safety and Risk Management	
INDSTENG 3730	Engineering Management	
<b>Applied Science Elective - Choose one of the following:</b>		<b>3-4</b>
CIVILENG 4630	Geographic Information Systems (only if not used as a technical elective)	
COMPUTER 1430	Introduction to Computer Programming	
DATASCI 2010	Data Science I	
GENENG 2230	Engineering Mechanics-Dynamics	
ENVSS 3230	Geographic Information Systems	
MATH 3230	Linear Algebra	
MECHENG 2630	Thermodynamics	
STAT 3230	Experimental Design and Analysis	
<b>Engineering Topics</b>		
GENENG 1320	Engineering Computer Graphics	2
GENENG 2130	Engineering Mechanics-Statics	3
GENENG 2340	Mechanics of Materials	4
GENENG 2820	Engineering Economy	2
CIVILENG 2000	Introduction to Infrastructure	3
CIVILENG 2220	Civil and Environmental Engineering Computer Applications	2
CIVILENG 2630	Elements of Surveying	3
CIVILENG 3020	Construction Engineering	3
CIVILENG 3030	Construction Materials	3
CIVILENG 3140	Introduction to Structural Engineering	4
CIVILENG 3300	Fluid Mechanics	4
ENVENG 3340	Environmental Engineering	4

CIVILENG 3530	Transportation Engineering	3
CIVILENG 3740	Geotechnical Engineering I	4
CIVILENG 4930	Civil and Environmental Engineering Design Project	3
<b>Civil Engineering Technical Electives</b>		
Select one of the following emphasis areas with a minimum of 14 credits		14
<b>Total Credits</b>		<b>125</b>

<sup>1</sup> A 2.0 G.P.A. in the major is required for graduation.

<sup>2</sup> No more than two D/D+'s in CIVILENG/ENVENG courses fulfilling graduation requirements is allowed.

## CONSTRUCTION ENGINEERING EMPHASIS

Course	Title	Credits
CIVILENG 4020	Construction Estimates and Costs	3
CIVILENG 4030	Construction Equipment	2
CIVILENG 4040	Construction and Professional Management	3
CIVILENG/ENVENG 4###	Any 4000-level CIVILENG or ENVENG courses, or "other" technical elective	6
<b>Total Credits</b>		<b>14</b>

## GEOTECHNICAL ENGINEERING EMPHASIS

Course	Title	Credits
CIVILENG 4160	Foundation Design	3
CIVILENG 4730	Geotechnical Engineering II	3
CIVILENG 4150	Reinforced Concrete Structures	3
or CIVILENG 4520	Pavement Design and Analysis	
or ENVENG 4310	Groundwater Hydrology	
CIVILENG/ENVENG 4###	Any 4000-level CIVILENG or ENVENG courses, or "other" technical elective	5
<b>Total Credits</b>		<b>14</b>

## ENVIRONMENTAL ENGINEERING EMPHASIS

Course	Title	Credits
Select 4 of the following 7:		12
ENVENG 4300	Hydrology	
ENVENG 4310	Groundwater Hydrology	
ENVENG 4330	Air and Waste Management	
ENVENG 4400	Municipal Hydraulics	
ENVENG 4410	Wastewater Treatment and Management	
ENVENG 4420	Water Supply and Treatment	
CIVILENG 4640	Site Design and Stormwater Management	
CIVILENG/ENVENG 4###	Any 4000-level CIVILENG or ENVENG course,, or "other" technical elective	2-3
<b>Total Credits</b>		<b>14-15</b>

## STRUCTURAL ENGINEERING EMPHASIS

Course	Title	Credits
CIVILENG 4110	Structural Analysis	3
CIVILENG 4150	Reinforced Concrete Structures	3
CIVILENG 4160	Foundation Design	3
CIVILENG 4230	Steel Design	3
CIVILENG 4250	Wood and Masonry Design	3
<b>Total Credits</b>		<b>15</b>

## TRANSPORTATION ENGINEERING EMPHASIS

Course	Title	Credits
ENVENG 4300	Hydrology	3
CIVILENG 4500	Highway Engineering	3
Select at least two of the following:		5-6
CIVILENG 4520	Pavement Design and Analysis	
CIVILENG 4550	Traffic Engineering	
CIVILENG 4560	Pavement Maintenance and Rehab	
CIVILENG 4680	Cycling Infrastructure in the Netherlands	
CIVILENG/ENVENG 4###	Any 4000-level CIVILENG or ENVENG course, or "other" technical elective	2-3
<b>Total Credits</b>		<b>13-15</b>

## MUNICIPAL ENGINEERING EMPHASIS

Course	Title	Credits
ENVENG 4300	Hydrology	3
ENVENG 4400	Municipal Hydraulics	3
CIVILENG 4640	Site Design and Stormwater Management	3
CIVILENG 4500	Highway Engineering	3
or CIVILENG 4550	Traffic Engineering	
CIVILENG 4520	Pavement Design and Analysis	2-3
or CIVILENG 4560	Pavement Maintenance and Rehab	
<b>Total Credits</b>		<b>14</b>

## OTHER TECHNICAL ELECTIVE COURSE OPTIONS

Course	Title	Credits
CIVILENG 4630	Geographic Information Systems (if not used for applied science elective)	3
CIVILENG 4680	Cycling Infrastructure in the Netherlands (if not used for career development)	3
ENERGY 3430	Green Building Design	3
AETM 4510	Construction Heavy Equipment Safety	3