DEPARTMENT OF CIVIL ENGINEERING

For students starting second year fall 2018
Students are expected to follow either the 4 year or the 5 year model program.
This will ensure prerequisite and timetable requirements are met.

Offered in all 3 terms (Fall/Winter/Summer)

Offered fall & winter terms

* common to all engineering programs

FALL TERM				WINTER TERM			
FIRST YEAR	**(2017)**	hr	**Prerequisites**	**(2018)**		hr	**Prerequisites**
ENG 1440 *	Eng Statics	3		MATH 1210 *	C/L Algebra	3	
ENG 1460 *	Thermal Sci	3		MATH 1710 *	App Calc 2	3	1500/1510 p or c PHYS 1050
MATH 1510 *	App Calc 1	3		ENG 1430 *	Eng Design	3	
PHYS 1050 *	Physics	3	p or c MATH 1510	CHEM 1300 *	Chemistry	3	
Written English Requirement *	Choose course from approved List	3	(Previously was ENGL 1310)	COMP 1012 *	Comp Prog Eng	3	
SECOND YEAR (2018)				**(2019)**			
Complementary Elective #1 (Arts or Management) * 3				CIVL 2790	Fluid Mechanics	4	ENG 1440, MATH 1700/1710
ENG 1450 *	Intro Elec Eng	3		GEOL 1340	Dynamic Earth	3	(formerly GEOL 2250)
MATH 2130 *	Math Analysis 1	3	MATH 1700/1710,1210	MATH 2132 *	Math Analysis 2	3	MATH 1700/1710, MATH 1210
CIVL 2830	Graphics	2	c CIVL 2840	ENG 2030 or	Eng Communication	3	Written English Course, ENG 1430
CIVL 2840	CE Geomatics	3	p or c MATH 1210, c CIVL 2830	ENG 2040	Eng Communication		(or the former ENG 2010)
THIRD YEAR	**(2019)**			**(2020)**			
CHEM 1310	Intro Phys Chem	3	CHEM 1300	CIVL 2770	CE Materials	5	ENG 1440; CIVL 2800
STAT 2220 *	Eng Statistics	3	MATH 1700/1710	CIVL 2780	CE Systems	4	MATH 1700/1710
CIVL 2800	Solid Mech 1	4	MATH 1700/1710, ENG 1440	CIVL 3590	Numerical Meth	4	COMP 1012, p or c MATH 2132
CIVL 3750	Hydrology	4	p or c STAT 2220	CIVL 3740	Hydraulics	4	CIVL 2790
Complementary Elective #2 (Arts/Management) * 3 (Civil Program)				ENG 3000*	Eng Economics	3	(formerly CIVL 4050)
	(Comp Elective can be taken any term as scheduling allows)						
FOURTH YEAR (2020)				**(2021)**			
CIVL 3690	Enviro Eng Analysis	4	CHEM 1310 ,STAT 2220	CIVL 3700	Enviro Eng Des	4	CIVL 3690
CIVL 3730	Geo Mat Analysis	4	CIVL 2800,2770 GEOL 1340/2250	CIVL 3770	Struct Des 1	4	CIVL 2770, 3760
CIVL 3760	Struct Analysis	4	CIVL 2800				
CIVL 3790	Transp Eng 1	4	CIVL 2840,2770,2780 STAT 2220	2 or 3 Technical Electives		8	
Technical Elective		4		(5 technical electives required in total)			
(5 technical electives required in total)							
Complementary Elective #2 - **Environmental Option ONLY**							
PHIL 2750	Enviro Ethics (E)	3	(Environmental Option Only)				
	(Enviro option students can move tech elective course to different term)						
FIFTH YEAR	**(2021)**			**(2022)**			
CIVL 4220	Geotech Des	4	CIVL 3730	ENG 3020	Tech Soc	3	Written English (formerly CIVL 4460)
CIVL 4380	Infrastructure	4	CIVL 4050 or ENG 3000	CIVL 4590	Design Project	6	ENG 2010/30/40, CIVL 2840, 3690
CIVL 4390	Struct Des 2	4	CIVL 2770,2800, 3760, 3770				3730, 3740, 3750, 3770, 3790
CIVL 4400	Trans Eng 2	4	CIVL 3790	1 or 2 Technical Electives		4	
Technical Elective		4		(5 technical electives required in total)			
(5 technical electives required in total)							

Note: c = corequisite

Technical electives (TE) offered vary from year to year.   See final page for complete TE list.

Check current course schedule on Civil Engineering website for details.

Total credit hrs: 163

DEPARTMENT OF CIVIL ENGINEERING
For students starting second year fall 2017

Students are expected to follow either the 4 year or the 5 year model program.
This will ensure prerequisite and timetable requirements are met.

FALL TERM				WINTER TERM			
FIRST YEAR	**(2017)**	**hr**	**Prerequisites (18 hrs)**	**(2018)**		**hr**	**Prerequisites (18 hrs)**
Complementary Elective (Arts or Management) * 3				ENG 1430	Eng Des	3	
CHEM 1300	Chem	3		ENG 1440	Eng Statics	3	
COMP 1012	Comp Prog Eng	3		ENG 1450	Intro Elec	3	
MATH 1510	App Calc 1	3		ENG 1460	Thermal Sci	3	
PHYS 1050	Physics	3	p or c 1500/1510	MATH 1210	C/L Algebra	3	
Written English Requirement	Choose course from approved List	3	Previously was ENGL 1400. Effective Sept 2016	MATH 1710	App Calc 2	3	1500/1510, p or c PHYS 1050

SECOND YEAR	**(2018)**		**(21 hrs)**	**(2019)**			**(23 hrs)**
CHEM 1310	Intro Phys Chem	3	CHEM 1300	CIVL 2770	CE Materials	5	ENG 1440, CIVL 2800
CIVL 2800	Solid Mec 1	4	MATH 1710/1700, ENG 1440	CIVL 2780	CE Systems	4	MATH 1710 or 1700
CIVL 2830	Graphics	2	c CIVL 2840	CIVL 2790	Fluid Mech	4	ENG 1440, MATH 1710
CIVL 2840	CE Geomatics	3	p or c MATH 1210, c CIVL 2830	CIVL 3590	Numerical Meth	4	COMP 1012, p or c MATH 2132
ENG 2030 or ENG 2040	Eng Communication	3	Written English Crs, ENG 1430 (or the former ENG 2010)	GEOL 1340	Dynamic Earth	3	(formerly GEOL 2250)
MATH 2130	Math Analysis 1	3	MATH 1710,1210	MATH 2132	Math Analysis 2	3	MATH 1710, MATH 1210
STAT 2220	Eng Statistics	3	MATH 1710/1700				

THIRD YEAR	**(2019)**		**(23 hrs)**	**(2020)**			**(23 hrs)**
CIVL 3690	Env Eng Analysis	4	CHEM 1310/2560 ,STAT 2220	CIVL 3700	Env Eng Des	4	CIVL 3690
CIVL 3730	Geo Mat Analysis	4	CIVL 2800,2770 GEOL 1340/2250	CIVL 3740	Hydraulics	4	CIVL 2790
CIVL 3750	Hydrology	4	p or c STAT 2220	CIVL 3770	Struct Des 1	4	CIVL 2770, 3760
CIVL 3760	Struct Analysis	4	CIVL 2800	ENG 3000	Eng Economics	3	(formerly CIVL 4050)
CIVL 3790	Transp Eng 1	4	CIVL 2840,2770,2780 STAT 2220	Technical Elective #1		4	
Complementary Elective (Arts/Management) * 3 (Civil Program)				Technical Elective #2		4	
or			OR	(5 technical electives required in total)			
PHIL 2750	Enviro Ethics (E)	3	(Environmental Option Only)				

1 Technical Elective Course may be taken this term. Move complementary elective course to a different term.

FOURTH YEAR	**(2020)**		**(20 hrs)**	**(2021)**			**(17 hrs)**
CIVL 4220	Geotech Des	4	CIVL 3730	ENG 3020	Tech Soc	3	Written English (formerly CIVL 4460)
CIVL 4380	Infrastructure	4	CIVL 4050	CIVL 4590	Design Project	6	ENG 2010/30/40, CIVL 2840, 3690
CIVL 4390	Struct Des 2	4	CIVL 2770,2800,3760,3770				3730, 3740, 3750, 3770, 3790
CIVL 4400	Trans Eng 2	4	CIVL 3790	Technical Elective #4		4	
Technical Elective #3		4		Technical Elective #5		4	
				(5 technical electives required in total)			

Note: c = corequisite

Technical electives (TE) offered vary from year to year.   See final page for complete TE course list.
Check current course schedule on Civil Engineering website for details.

Total credit hrs: 163

TECHNICAL ELECTIVES

Students are required to take 5 technical electives. A minimum of 3 courses must be taken from Group A

and up to 2 from Group B, with no more than one course from outside the Department of Civil Engineering.

Technical electives vary from year to year and may have limited enrollment.

Check current course schedules on the Civil Engineering website for details.

Most technical electives courses are offered every two years.**

Civil Engineering Program

Group A (select 3 to 5 courses)

Course	Title	Cr	Prerequisites
CIVL 3710	Finite Element	4	CIVL 2790, 2800, 3590
CIVL 4020	Masonry Des	4	CIVL 3760
CIVL 4022	Des of Concrete Mix	4	CIVL 2770
CIVL 4024	Sustainable Bldg Design	4	p or c CIVL 3770
CIVL 4030**	Structural Des 3	4	CIVL 2770,2800,3760,3770 4390
CIVL 4040	Structural Dynamics	4	CIVL 3760
CIVL 4100	Eng Mngmnt & Enviro	4	p or c CIVL 3700
CIVL 4120	Water Treat Plnt Des	4	CIVL 3690
CIVL 4130	Solid Waste	4	p or c CIVL 3700
CIVL 4180	Enviro Systems	4	CIVL 2780,3690, 3750
CIVL 4200	Grndwater Contam	4	GEOL 1340/2250,CIVL 2790, p or c CIVL 3690
CIVL 4230	Geotech Eng	4	CIVL 3730
CIVL 4232	Geotech Earthqk Eng	4	CIVL 3730
CIVL 4250	Grndwater Hydrology	4	GEOL 1340/2250, CIVL 2790, MATH 2130, 2132
CIVL 4300	Urban Water System	4	CIVL 2790, p or c CIVL 3750
CIVL 4350	Haz Waste	4	CIVL 3690
CIVL 4410	Transp Systems	4	CIVL 3790
CIVL 4420	Hwy Pave Des	4	CIVL 2770, 3790
CIVL 4470	Watershed Proc	4	CIVL 3750, p or c CIVL 3740

Group B (Up to 2 courses, only 1 from outside of Civil Dept.)

Course	Title	Cr	Prerequisites
CIVL 4332	Thesis Project	4	ENG 2010/30/40 & 120 cr hrs
BIOE 4560	Struct Des Wood	4	CIVL 3770

Environmental Option Program

Group A (select 3 to 5 courses)

Course	Title	Cr	Prerequisites
CIVL 3710	Finite Element	4	CIVL 2790, 2800, 3590
CIVL 4100	Eng Mngmnt & Enviro	4	p or c CIVL 3700
CIVL 4120	Water Treat Plnt Des	4	CIVL 3690
CIVL 4130	Solid Waste	4	p or c CIVL 3700
CIVL 4180	Enviro Systems	4	CIVL 2780,3690, 3750
CIVL 4200	Grndwater Contam	4	GEOL 1340/2250,CIVL 2790, p or c CIVL 3690
CIVL 4250	Grndwater Hydrology	4	GEOL 1340/2250, CIVL 2790, MATH 2130, 2132
CIVL 4300	Urban Water Syst	4	CIVL 3750, p or c CIVL 3740
CIVL 4350	Haz Waste	4	CIVL 3690
CIVL 4470	Watershed Proc	4	CIVL 3750, p or c CIVL 3740

Group B (Up to 2 courses, only 1 from outside of Civil Dept.)

Course	Title	Cr	Prerequisites
CIVL 4332	Thesis Project	4	ENG 2010/30/40 & 120 cr hrs
BIOE 4460	Air Pollution	4	p or c CIVL 2790
SOIL 4500	Remed Cont Soil	3	instructor consent

** CIVL 4030 is currently offered every winter term.

COMPLEMENTARY ELECTIVES - Arts or Management Elective

Students are required to take 6 credit hours of Arts or Management electives. The written english requirement is not included in this 6 hrs.

1000 level or higher courses offered by the Faculties of Arts or Management qualify except ARTS 1100 - Introduction to University.

Students in in the Environmental Option, must take PHIL 2750 - Environmental Ethics as one complementary elective.

Suggested complementary elective courses are listed on the Civil Engineering web site.