

DEGREE CHECKLIST 2016-2017

BACHELOR OF ENGINEERING (BEng) CIVIL ENGINEERING

NAME

STUDENT#

First	Year Courses SC/CHEM 1100 4.00 LE/EECS 1011 3.00 LE/EECS 1021 3.00 LE/ENG 1101 4.00 LE/ENG 1102 4.00 LE/ESSE 1012 3.00 SC/MATH 1013 3.00	Chemistry and Materials Science for Engineers Computational Thinking Through Mechatronics Object Oriented Programming from Sensors to Actuators Renaissance Engineer 1: Ethics, Communication and Problem Solving Renaissance Engineer 2: Engineering Design Principles The Earth Environment	EARNED	
	LE/EECS 1011 3.00 LE/EECS 1021 3.00 LE/ENG 1101 4.00 LE/ENG 1102 4.00 LE/ESSE 1012 3.00	Engineers Computational Thinking Through Mechatronics Object Oriented Programming from Sensors to Actuators Renaissance Engineer 1: Ethics, Communication and Problem Solving Renaissance Engineer 2: Engineering Design Principles		
	LE/EECS 1021 3.00 LE/ENG 1101 4.00 LE/ENG 1102 4.00 LE/ESSE 1012 3.00	Mechatronics Object Oriented Programming from Sensors to Actuators Renaissance Engineer 1: Ethics, Communication and Problem Solving Renaissance Engineer 2: Engineering Design Principles		
	LE/ENG 1101 4.00 LE/ENG 1102 4.00 LE/ESSE 1012 3.00	Sensors to Actuators Renaissance Engineer 1: Ethics, Communication and Problem Solving Renaissance Engineer 2: Engineering Design Principles		
	LE/ENG 1102 4.00 LE/ESSE 1012 3.00	Communication and Problem Solving Renaissance Engineer 2: Engineering Design Principles		
	LE/ESSE 1012 3.00	Design Principles		
	<u> </u>	The Earth Environment		
+	SC/MATH 1013 3.00			
	_ 5, 1015 5.00	Applied Calculus I		
	SC/MATH 1014 3.00	Applied Calculus II		
	SC/MATH 1025 3.00	Applied Linear Algebra		
	SC/PHYS 1800 3.00	Engineering Mechanics		
	SC/PHYS 1801 3.00	Electricity, Magnetism and Optics for Engineers		
Second	Year Courses			
	LE/CIVL 2000 3.00	Civil Engineering Design Project		
	LE/CIVL 2120 3.00	Civil Engineering Materials		
	LE/CIVL 2150 3.00	Civil Engineering Graphics		
	LE/CIVL 2210 4.00	Fluid Mechanics		
	LE/CIVL 2220 4.00	Mechanics of Materials		
	LE/CIVL 2240 3.00	Introduction to Environmental Engineering		
	LE/ENG 2001 3.00	Engineering Projects: Management, Economics & Safety		
	LE/ENG 2003 3.00	Effective Engineering Communication		
	LE/ESSE 2620 3.00	Fundamentals of Surveying		
	LE/ESSE 2630 3.00	Field Surveys		
	SC/MATH 2015 3.00	Applied Multivariate and Vector Calculus		
	SC/MATH 2271 3.00	Differential Equations for Scientists and Engineers		
	SC/MATH 2930 3.00	Introduction to Probability and Statistics		
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				CREDITS EARNED	GRADE
	Third \	ear Courses			
		LE/CIVL 3110 3.00	Soil Mechanics		
		LE/CIVL 3120 4.00	Hydraulics		
		LE/CIVL 3130 3.00	Structural Analysis		
		LE/CIVL 3140 3.00	Civil Engineering Computational Methods		
		LE/CIVL 3210 3.00	Geotechnical Engineering		
		LE/CIVL 3220 3.00	Hydrology		
		LE/CIVL 3230 3.00	Introduction to Structural Design		
		LE/CIVL 3240 3.00	Sanitary and Environmental Engineering		
		LE/CIVL 3250 3.00	Transportation Engineering		
		LE/ENG 3000 3.00	Professional Engineering Practice		
		ES/ENVS 2150 3.00 or LE/ESSE 2210 3.00	Environment, Technology and Sustainable Society I OR Engineering and the Environment		
Complementary Studies (3 credits)					
	Fourth	Year Courses			
		LE/CIVL 4110 3.00	Project Engineering and Management		
		LE/CIVL 4210 3.00	Civil Engineering for a Sustainable Future		
		LE/ENG 4000 6.00	Engineering Project		
Complementary Studies (9 credits)					
	Techni	cal Electives			
Four Technical Electives from Group A to E, with a maximum of 2 from t			Elective from Group F (for a total of 5):		
Group A - Structures		LE/CIVL 4001 3.00	Advanced Structural Analysis		
		LE/CIVL 4002 3.00	Reinforced Concrete Design		
		LE/CIVL 4003 3.00	Structural Steel Design		
		LE/CIVL 4004 3.00	Structural Dynamics		
Group B - Geotechnical		LE/CIVL 4011 3.00	Geotechnical Modelling		
		LE/CIVL 4012 3.00	Mechanics of Unsaturated Soils		
		LE/CIVL 4013 3.00	Advanced Hydrogeology		
		LE/CIVL 4014 3.00	Rock Mechanics		
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			COURSES	CREDITS EARNED	GRADE
Group C - Hydrotechnical		LE/CIVL 4021 3.00	Hydraulic Structures		
		LE/CIVL 4022 3.00	Water Resources Engineering		
Group D - Transportation		LE/CIVL 4031 3.00	Pavement Materials and Design		
		LE/CIVL 4032 3.00	Urban Transportation Planning		
		LE/CIVL 4033 3.00	Municipal Planning		
Group E - Environmental		LE/CIVL 4041 3.00	Geoenvironmental Engineering		
		LE/CIVL 4042 3.00	Environmental Impact Assessment and Sustainability		
		LE/CIVL 4043 3.00	Advanced Sanitary and Environmental Engineering		
Group F - Geomatics		LE/ESSE 3600 3.00	GIS and Spatial Analysis		
		LE/ESSE 4220 3.00	Remote Sensing of the Earth's Surface		
		LE/ESSE 4610 3.00	Global Positioning Systems (GPS)		
		LE/ESSE 4640 3.00	Digital Terrain Modelling		
		LE/ESSE 4650 3.00	Hydrography		
TOTAL CREDITS & CGPA (minimum overall GPA of 5.00 re	quired t	to graduate in the	BEng program)		
General Prerequisite: Most 2000-, 3000-, and 4000-level EECS courses r prerequisites: a cumulative grade point average of 4.50 or better over a other than 5 and include LE/EECS 1028 3.00 (cross-listed to: SC/MATH 1	all comple	eted major EECS course	s. Note: "Major" courses are all EECS courses		
Participation in the Co-Op Program is highly recommended for all engin	neering st	udents, but is not a deg	ree requirement.		
		Notes			
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