

BACHELOR OF MULTIDISCIPLINARY DESIGN - EXPERIENTIAL LEARNING

Overview

The University of Ottawa Bachelor of Multidisciplinary Design - Experiential Learning is a 3-year program in the Faculty of Engineering, emphasizing student choice, multidisciplinary learning, digital/data fluency, professional skills development and impact on a global scale. The program trains students seeking to combine engineering/technical skills with other fields of study. Learning in the classroom is reinforced through internships and other experiences gained outside the classroom. Students also develop leadership skills via an integrated mentorship model.

The program is intended for students who may not yet consider engineering as their educational path, thereby providing opportunities for a diverse set of students. Bridging programs help lower the barriers to entry, while the inclusive curriculum provides socially and environmentally relevant opportunities for students to grow. To develop students' understanding of pressing global requirements for engaged engineering practice, United Nations Sustainable Development Goals are integrated into learning activities, projects, and courses.

As industry seeks out technologically adept employees and multidisciplinary knowledge, the shorter and more flexible learning paths offered by the program provide students with a unique opportunity to develop skills attuned to current market demands and future societal needs. Students graduate with specific subsets of traditional engineering elements and an expansive multidisciplinary focus.

Program Requirements

Compulsory First-Year Courses:

GNG 1103	Introduction to Engineering Design	3 Units
SED 1111	Personal development and communications skills	3 Units
SED 1112	Teamwork and communication skills	3 Units
SED 1113	Introduction to engineering and its impact on society	3 Units
SED 1114	Introduction to sustainability	3 Units
SED 1116	Data visualization and analytics	3 Units
3 course units from:		3 Units
ITI 1120	Introduction to Computing I ¹	
SED 1115	Embedded programming and scripting	

Compulsory Second-Year Courses:

GNG 2101	Introduction to Product Development for Engineers and Computer Scientists	3 Units
SED 2113	Leadership and communication	3 Units
SED 2116	Ethics and Technology	3 Units
SED 2917	Internship I	3 Units
3 course units from:		3 Units

ITI 1121	Introduction to Computing II ¹
SED 2115	Web and Mobile Applications

Compulsory Third-Year Courses:

SED 3111	Multidisciplinary Design I	3 Units
SED 3112	Multidisciplinary Design II	3 Units
SED 3901	Community engagement ²	
SED 3917	Internship II	3 Units

Optional Courses

9 course units of mathematics or science courses from the list of science electives for the programs at Faculty of Engineering and the list of the following mathematics courses:

MAT 1320	Calculus I
MAT 1322	Calculus II
MAT 1341	Introduction to Linear Algebra
MAT 1348	Discrete Mathematics for Computing
MAT 2322	Calculus III for Engineers
MAT 2377	Probability and Statistics for Engineers
MAT 2384	Ordinary Differential Equations and Numerical Methods

12 technical course units of technical electives from the list of technical electives of the Faculty of Engineering programs approved by SEDTI ³

24 elective course units

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Students who wish to take technical electives in computer science or software engineering must take ITI1120 and ITI1121. Otherwise, students must take SED1115 and SED2115.

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SED 3901 Community Engagement (0 units)

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The list of 12 technical course units of the Faculty of Engineering programs approved by SEDTI is as follows: all courses offered by the Faculty of Engineering except CSI 2911, CVG 1107, ELG 2911, GNG 1106, GNG 4120, GNG 4170, ITI 1100, ITI 1120, ITI 1121, SEG 2911, theses, projects, seminar courses and COOP placements.