ELECTRICAL ENGINEERING

CO-OP AVAILABLE

Experience Map

PROMISE

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University of Windsor

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ELECTRICAL ENGINEERING

SKILLS AND KNOWLEDGE OF ELECTRICAL ENGINEERING GRADUATES

PROGRAM HIGHLIGHTS

- **Electrical Engineering** – As an electrical engineer, you'll enjoy a diverse range of exciting opportunities in high-tech industries designing communications systems, computer technologies, electrical power grids, circuits, electric motors, electronic sensors and many more of the technologies and applications so important to today's society. After a general first year, you'll take courses in numerical programming, circuit analysis, digital design, electromagnetic elds and photons, signals, and physical electronics. Co-op option available.

FUNCTIONAL KNOWLEDGE

- Upgrading, maintaining, and building electrical systems to meet specific energy delivery needs
- Understanding foundational topics in microelectronics, computer engineering, robotics, communications, and power generation and distribution
- Planning effective, large-scale projects that manage resources and balance considerations including cost, quality, and speed
- Analyzing complex problems and breaking them down into steps/component parts
- Paying keen attention to detail and producing error-free, work to precise quality standards
- Writing, preparing, and presenting detailed technical reports, presentations, and resources to engage diverse audiences and communicate work

CURRICULUM

Courses of study specific to each program

CO-CURRICULAR

Activities and experiences that complement coursework

(Outstanding Scholars, STEPS workshops, peer mentoring, VIP)

EXTRACURRICULAR

Activities falling outside of the scope of set curriculum

(Part-time job, clubs, volunteering, athletics)

BUILD YOUR SKILLS AND EXPERIENCE

Your UWindsor experience is more than attending classes. It is a combination of academics, co-curricular activities, and extracurricular involvement. By making the most of all three elements of your university experience, you will maximize your opportunities to build your skills, broaden your personal network, and clarify your long term academic and career goals.

CAREER PLANNING GUIDE

Intentional career planning will help you prepare for your next step after graduation. It is a fluid, dynamic, and continuous process, meaning you can move on or return to an earlier stage at any time. You can even work through simultaneous cycles, like one for your long-term dream job and another for a summer job.

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HOW TO USE THIS GUIDE

This guide is meant to help you explore various opportunities throughout the course of your UWindsor experience. It is intended to help you link academics, co-curricular, extra-curricular and career planning activities by suggesting some of the options available to you. This is to help you see what you can do, rather than what you are required to do!

First Year

Academics

- Take required courses that are common for all first-year engineering students to provide flexibility in program choice
- Review degree course requirements
- Consider applying for co-op to begin work terms in second year★
- Meet with an academic advisor such as the undergraduate co-ordinator or department head
- Receive academic support, mentoring and advising from the WINONE office in the Centre for Engineering Innovation

Experience

- Explore co-op options and consider applying in fall of second year★
- Apply for a co-curricular experience such as the Volunteer Internship Program (VIP)★
- Investigate research opportunities as part of the Outstanding Scholars program★
- Gain experience by taking on a summer job
- Aid fourth-year students with their research for their final-year capstone project
- Research student exchange opportunities for middle years★
- Join a club like the Engineering Student Society, SAE Baja or Students Offering Support

Career

- Create a list of things that you enjoy, areas in which you excel, and your skills
- Meet with Career & Employment Services (CES) to develop a plan for your future years
- Consider taking an interest assessment to help you identify possible career paths
- Attend a CES workshop to learn how to find a summer or part-time job
- Become familiar with the mySuccess online job search tool
- Attend a CES resumé and cover letter workshop to get your resumé critiqued

Middle Years

- Take required courses and check in with academic advisor to make sure you are on the right path
- Look into completing a research project with a faculty member in final year★
- Begin taking courses in accordance with Electrical Engineering major requirements
- Consider specializing in power systems, signal processing and communication, circuit design, computer engineering, or automotive electronics
- Seek out internships and courses that offer field experience★
- Start taking courses required as pre-requisites for graduate/ professional school
- Consider declaring a minor and/or specialization

Final Year

- Meet with faculty and academic advisor to go over degree requirements and options
- Complete all required courses in order to fulfill degree audit
- Apply to graduate through MyUWindsor Portal
- Complete your Thesis or Research Project
- Ensure required laboratory hours are completed
- Take a capstone, field work, or comprehensive course to culminate your senior experience★

- Join a professional association in your field such as the Institute of Electrical and Electronics Engineers
- Volunteer at a local electrical engineering firm to network with industry professionals
- Participate in the UWill Discover undergraduate research conference★
- Apply to co-op in fall of second year★
- Complete co-op work term I in the summer of second year and work term II in winter of third year★
- Apply for student exchange★
- Expand your skills by working full time in your off semesters or taking on a part-time or volunteer position during your academic terms
- Look for a leadership role in a club or society

- Complete co-op work term III in the fall semester★
- Take part in SAE Baja competition against students from universities all over North America
- Become a tutor for Students Offering Support (SOS)
- Utilise your knowledge and skills to complete a design experience project in final-year collaborative capstone course★
- Complete all required technical and approved non-technical electives

- Research career fields and occupations
- Explore opportunities and meet employers through a job fair or employer information session
- Attend the Graduate and Professional Schools Fair to explore further educational opportunities
- Analyze the requirements for graduate or professional schools
- Make an appointment with Career & Employment Services to explore career options
- Create a LinkedIn profile and have it critiqued
- Take part in informational interviews through such sources as Ten Thousand Coffees

- Consider applying to graduate or professional school. Be aware of early application deadlines
- Meet with Career & Employment Services to prepare such application documents as a resumé, cover letter, CV or personal statement
- Attend an Interview Skills Workshop and Job Search Tips Workshop
- Set up a mock interview for professional school or job applications
- Meet employers at the annual job fair in January
- Compose a portfolio of relevant academic and work experience

★ High-Impact Practice: educational practices that include experiential learning as a basis for student engagement and successful scholarship

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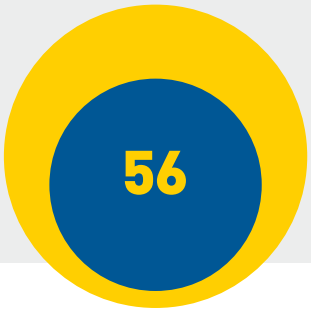
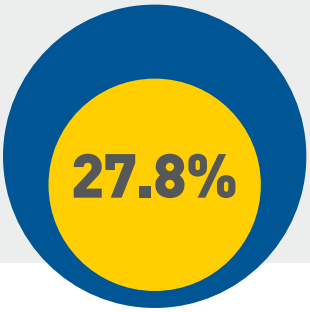
LIFE AFTER GRADUATION

2016



Number of University of Windsor graduates from Electrical Engineering programs in 2016.

2013



Percentage of Electrical Engineering graduates from Canadian universities who continue studying after a Bachelor's degree.
(National Graduates Study 2013)

COMMON INDUSTRIES FOR ELECTRICAL ENGINEERING GRADUATES

- Academia and research
- Education
- Engineering
- Energy/utilities sector
- Government
- Industry and manufacturing
- Logistics and operations
- Patent/intellectual property law

CAREER TRACKS*

Assembly maintenance
Automation supervisor
Computer engineer
Consultant
Controls designer
Design engineer
Doctor
Electrical engineer
Facility manager
Financial director
Industry trainer
Lawyer
Logistician
Marketing manager
Network co-ordinator
Office manager
Operations director
Professor
Project manager
Public affairs officer
Quality assurance supervisor
Research co-ordinator
Robotics technician
Software developer
Systems engineer
Teacher
Technical engineer
Web developer

* Additional education and/or training required for some of the above careers.

CAREER-READINESS COMPETENCIES

Critical Thinking and Problem Solving: Using strategic and creative thinking to make decisions and evaluate solutions

- Applying new and/or unfamiliar information and technologies to diverse situations and settings
- Exercising high-level numeracy; performing computations
- Defining research problems and developing research models

Professionalism and Work Ethic: Demonstrating personal management practices and a high level of integrity and ethical behaviour

- Identifying priorities and preferable courses of action to execute necessary tasks
- Managing time, data, and resources to meet deadlines
- Working efficiently by systematizing tasks pertaining to your work

Teamwork and Collaboration: Working as a productive member of a group and collaborating with others to achieve set goals

- Managing projects and teams of varying sizes
- Leading and interacting with colleagues who reflect different backgrounds, learning styles, and approaches
- Overseeing contributions to a project; determining outcomes, planning details, delegating, and completing tasks

Communication: Appropriate and effective articulation of ideas and information to a range of audiences

- Preparing and delivering data-driven oral and written presentations and reports using technological aids
- Establishing and communicating hypotheses for projects
- Compiling and organizing facts and information in a presentable manner

CAMPUS RESOURCES

- Visit **Leddy Library** and the **Writing Support Desk** on the main floor for help with academic assignments
- Improve study skills through the **Skills To Enhance Personal Success (STEPS)** program
- Discover ways to get involved on campus through the **Student Success and Leadership Centre**
- Explore mentorship opportunities through the **Connecting4Success (C4S)** and **Bounce Back** programs
- Apply to the **Volunteer Internship Program (VIP)** to get involved in the community
- Look into the **Work Study** program for on-campus employment opportunities
- Broaden your cultural awareness through the **International Student Centre** and **Student Exchange Office**
- Get assistance developing your career plan and job search skills from **Career & Employment Services**
- Consult with the **EPICentre** if you are interested in starting your own business
- Seek out assistance with academic accommodation from **Student Accessibility Services**
- Tend to your health and wellness with support from **Student Health Services, Lancer Recreation** and the **Student Counselling Centre**

Recruitment Office
Phone: 519-973-7014
Toll-Free: 1-800-864-2860
Email: info@uwindsor.ca

WINONE Office
Phone: 519-253-3000, Ext. 2560
Email: winone@uwindsor.ca

Career and Employment Services
Phone: 519-253-3000, Ext. 3895
Email: careerservices@uwindsor.ca
experience.uwindsor.ca

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