



EXPERIENCE MAP

Electrical Engineering

CO-OP
AVAILABLE



**FUTURE FULL
OF PROMISE.**



University
of Windsor

EXPERIENCE.UWINDSOR.CA

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, biomedical devices, 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, sensors and electronic device design, digital design, electromagnetic fields 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, sensors, 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

Degree Title / Program	Minimum Average	Admission Requirements
ELECTRICAL ENGINEERING	74%	ENG., ADV. FUNC, CHEM. and PHYS. required. CALC. VEC. strongly recommended. 74% average in all attempted Science and Math courses, excluding BIO. and DATA M.



- Courses of study specific to each program
- Activities and experiences that complement coursework (Outstanding Scholars, peer mentoring, VIP)
- 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.



Explore Opportunities Using This Guide

Explore a selection of opportunities recommended for students in your program. This chart shows some of your many options – you don't have to do everything on it or limit yourself to it. Engage in opportunities from each of the three categories to set yourself up for success:



Academics

- Your coursework



Experience

- Ways to get involved



Career

- Plan ahead for what's next

HIP High-Impact Practice (HIP)

A HIP is an enriching educational experience that can be life-changing and often includes learning outside of the classroom while encouraging meaningful interaction and collaboration, such as:

- Co-op, internship or field experiences
- Research with faculty
- Culminating senior experience
- Capstone courses
- Service-learning
- Learning communities
- Study abroad

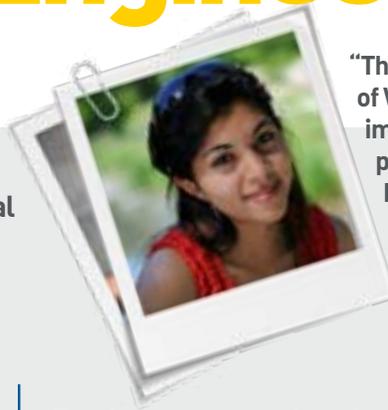
	First Year	Middle Years	Final Year
Academics	<ul style="list-style-type: none"> • Take required courses that are common for all first-year engineering students to provide flexibility in program choice • Review degree course requirements • Consider applying for co-op to begin work terms in second year HIP • 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 	<ul style="list-style-type: none"> • 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 HIP • 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 courses that offer field experience HIP • Start taking courses required as pre-requisites for graduate/professional school • Consider declaring a minor and/or specialization 	<ul style="list-style-type: none"> • Meet with an academic advisor to go over degree requirements • Complete all required courses for your degree • Apply to graduate through MyUWindsor Portal • Complete your Thesis or Research Project HIP • Ensure required laboratory hours are completed • Take a capstone, field work, or comprehensive course to culminate your senior experience HIP
Experience	<ul style="list-style-type: none"> • Explore co-op options and consider applying in fall of second year HIP • Apply for a co-curricular experience such as VIP HIP • Investigate research opportunities as part of the Outstanding Scholars program HIP • Gain experience by taking on a summer job • Aid fourth-year students with their research for their final year capstone project HIP • Research student exchange opportunities for middle years HIP • Join a club like the Engineering Student Society, SAE Baja or Students Offering Support • Participate in the Bystander Initiative workshop to gain skills that will help you be an effective and supportive ally to prevent sexual assault on campus 	<ul style="list-style-type: none"> • Join a professional association in your field such as the Institute of Electrical and Electronics Engineers • Participate in the UWill Discover undergraduate research conference HIP • Volunteer at a local electrical engineering firm to network with industry professionals • Apply to co-op in fall of second year HIP • Complete co-op work term I in the summer of second year and work term II in winter of third year HIP • Apply for student exchange HIP • 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 	<ul style="list-style-type: none"> • Complete co-op work term III in the fall semester HIP • Take part in SAE Baja competition against students from universities all over North America • Become a tutor for Students Offering Support (SOS) HIP • Utilise your knowledge and skills to complete a design experience project in final-year collaborative capstone course HIP • Complete all required technical and approved non-technical electives
Career	<ul style="list-style-type: none"> • Create a list of things that you enjoy, areas in which you excel, and your skills • Meet with a career advisor in Career Development and Experiential Learning (CDEL) for help developing a plan for your future years • Consider a career assessment workshop or appointment to help you identify possible career paths • Get involved with a part-time job, volunteer opportunity, campus group, or research assistantship • Attend CDEL workshops to learn how to find a summer or part-time job and write a resumé and cover letter • Drop in to meet with one of CDEL's peer advisors to get answers to your career and job search questions 	<ul style="list-style-type: none"> • Research career fields and occupations with the help of a CDEL career advisor • Explore opportunities and meet employers through job fairs and employer networking events • Explore further educational opportunities by attending the Graduate and Professional Schools Fair and researching admission requirements for programs you are interested in • Attend CDEL's Using Social Media to Leverage Your Career workshop • Create a LinkedIn profile and have it critiqued • Take part in informational interviews and use sources like LinkedIn and Ten Thousand Coffees to meet people in your targeted profession • Search job postings to learn what skills, knowledge, and credentials you will need for potential careers 	<ul style="list-style-type: none"> • If you are considering applying to graduate or professional school, be aware of early application deadlines • Meet with CDEL to prepare application documents like a resumé, cover letter, CV, or personal statement for jobs and education programs you are applying to • Attend an Interview Skills Workshop and Job Search Tips Workshop • Use InterviewStream to practice your interview skills online • Set up an in-person mock interview with a career advisor for professional school or job applications • Meet employers at the annual job fair in January • Compose a portfolio of relevant academic and work experience

Electrical Engineering

Life After Graduation

64

Number of Electrical Engineering Graduates (2017)



“The co-op placements through the University of Windsor helped me see my potential and improved my chances in finding full-time positions after graduation. The classes that helped me the most in achieving my goals were Electronics, Analog Circuit Design, Electromagnetic Waves, Embedded System Design, and many other courses.”

Hanan Mekawy – BAsc in Electrical Engineering [2014]

93.2%

Employment rate of graduates 2 years following degree completion (OUGS Engineering, 2014)



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*

Automation manager
Biomedical engineer
Chief executive officer
Chief technology officer
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
R&D director

R&D research engineer
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



Teamwork and Collaboration

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



Professionalism and Work Ethic

Demonstrating personal management practices and a high level of integrity and ethical behaviour



Communication

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



Campus Resources

- Research scholarships and bursaries through the **Student Awards and Financial Aid Office**
- Visit **Leddy Library** and the **Writing Support Desk** for help with academic assignments
- Explore mentorship opportunities through the **Connecting4Success (C4S)** and **Bounce Back** programs
- Improve study skills through the **Skills to Enhance Personal Success (STEPS)** program
- Get advice and support about your academic status by making an appointment with **Academic Advising**
- Seek out assistance with academic accommodation from **Student Accessibility Services**
- Discover ways to get involved on campus through the **Student Success and Leadership Centre**
- Look into the **Ignite: Work Study** program for on-campus employment opportunities
- Apply to **VIP** to get involved in a community service learning experience
- Get assistance developing your career plan and job search skills from **Career Development and Experiential Learning**
- Consult with the **EPICentre** if you are interested in starting your own business
- Broaden your cultural awareness through the **International Student Centre** and **Student Exchange Office**
- Find support for Indigenous learners and broaden your understanding of Indigenous culture by visiting **Turtle Island**
- Tend to your health and wellness with support from **Student Health Services** and **Lancer Recreation**
- Receive confidential mental health counselling delivered by trained professionals at the **Student Counselling Centre**
- Seek personal support or learn more about sexual violence education through the **Sexual Misconduct Response and Prevention Office**

Student Recruitment

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 Development and Experiential Learning

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



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