



EXPERIENCE MAP

Industrial Engineering



FUTURE FULL
OF PROMISE.



University
of Windsor

INDUSTRIAL ENGINEERING CO-OP
AVAILABLE

INDUSTRIAL ENGINEERING (MINOR IN BUSINESS ADMINISTRATION) CO-OP
AVAILABLE

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Skills and Knowledge of Industrial Engineering Graduates

PROGRAM HIGHLIGHTS

Industrial engineers help organizations operate efficiently and cost effectively using intelligent processes to streamline production systems, and design flexible manufacturing approaches. They use a wide range of knowledge to do so, including operations research, manufacturing sciences and enterprise resources planning and integration. After a general first year, you will learn how to engineer systems that interact with one another.

FUNCTIONAL KNOWLEDGE

- Understanding and implementing efficient processes for corporate logistics, warehousing and inventory management, and manufacturing supply chains
- Understanding and adhering to specific health, safety, and quality control frameworks and regulations
- Integrating human factors in product design
- 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

Degree Title / Program	Minimum Average	Admission Requirements
INDUSTRIAL 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.



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.

- 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.



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



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



Academics

First Year

- Take required courses that are common for all first-year engineering students to provide flexibility in program choice
- Review degree course requirements
- Meet with an academic advisor such as the undergraduate advisors or associate chair/head
- Receive academic support, mentoring and advising from the **WINONE** office in the **Centre for Engineering Innovation**

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 [HIP](#)
- Begin taking courses in accordance with Industrial Engineering major requirements
- Consider completing Business Administration minor to pair with degree
- 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

Final Year

- Meet with an academic advisor to go over degree requirements
- Complete all required courses for your degree
- Apply to graduate through **MyUWindsor Portal**
- Work with a faculty member on a research project or publication [HIP](#)
- Consider completing required courses for **Honours Certificate in Civil, Environmental, Electrical or Mechanical Engineering** to pair with degree
- Choose a capstone project to optimize your senior experience [HIP](#)



Experience

- 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](#)
- Aid fourth-year students with their research for their final year capstone project [HIP](#)
- Gain experience by taking on a summer job
- 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

- Join a professional association in your field such as the **Institute of Industrial and Systems Engineers**
- Participate in **UWill Discover** undergraduate research conference [HIP](#)
- Seek out opportunities to get experience at a local engineering firm and network with industry professionals
- Apply to co-op in fall of second year [HIP](#)
- Complete a 12 to 16 month co-op placement starting in the summer after second or 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

- 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 your final-year collaborative capstone course [HIP](#)
- Complete all required technical and approved non-technical electives



Career

- 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

- 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

- 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

Industrial Engineering

Life After Graduation

93.2%

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

37

Number of Industrial
Engineering
Graduates (2017)



COMMON INDUSTRIES FOR INDUSTRIAL ENGINEERING GRADUATES

- Academia and research
- Education
- Engineering
- Energy/utilities sector
- Government

- Industry and manufacturing
- Logistics and operations
- Patent/intellectual property law
- Technical consulting, sales, training

CAREER TRACKS*

Assembly maintenance
Consultant
Design engineer
Doctor
Facility manager
Financial director
Industrial engineer

Industry trainer
Lawyer
Logistician
Marketing manager
Materials manager
Office manager
Operations director

Packaging specialist
Performance specialist
Policy analyst
Process engineer
Professor
Project manager
Public affairs officer

Quality assurance supervisor
Quality engineer
Research co-ordinator
Simulation analyst
Strategic logistics
Teacher
Technical specialist

* 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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