



Adding Value to Your Team

Water is an invaluable resource. In our Water Resources Engineering program, students learn approaches to manage our water and land resources to ensure adequate clean water is available and design solutions to protect communities from floods and droughts. In the classroom and in the field, students learn to identify and evaluate watershed management options to protect and restore our groundwater, rivers and lakes. In addition to core engineering analysis and design courses, students will cover hydrology, heat and mass transfer, soil mechanics, groundwater quality, soil and water conservation, watershed systems design and environmental engineering systems.

University of Guelph Advantage

- Students begin their first work term after completing two years of their academic program and mastering the core skills needed to integrate into the workplace
- Co-op students complete a full semester course focused on job search skills and professionalism in the workplace
- Students are available for four or eight-month work terms
- Recruitment timelines are flexible, and employers can find the right student through our efficient, streamlined employment process

Student Strengths

- Effective project management, problem solving, communication and teamwork skills acquired from hands on design courses
- Strong research skills developed through the design process, management and financial feasibility
- Experience writing formal reports including proposals, engineering design reports and technical laboratory reports
- Understanding of systems approach to managing water resources
- Exposure to a variety of field, laboratory and office work in various sectors including consulting, industry, research, and municipal, provincial and federal governments
- Solid understanding of modeling and design software and experience with hydrological simulation tools

Water Resources Engineering Course Sequencing

| YEAR | FALL (SEPT-DEC) | WINTER (JAN-APRIL) | SUMMER (MAY-AUG) |
|--------------|---|--|------------------------|
| ONE | <ul style="list-style-type: none"> • GENERAL CHEMISTRY I • PHYSICS WITH APPLICATIONS • ENGINEERING AND DESIGN I • CALCULUS I • ENGINEERING ANALYSIS | <ul style="list-style-type: none"> • GENERAL CHEMISTRY II • CALCULUS II • INTRODUCTION TO PROGRAMMING • ENGINEERING MECHANICS I • INTRODUCTORY ELECTRICITY AND MAGNETISM | OFF |
| TWO | <ul style="list-style-type: none"> • FLUID MECHANICS • GEOMORPHOLOGY • APPLIED DIFFERENTIAL EQUATIONS • INTRODUCTION TO CO-OPERATIVE EDUCATION • PROBABILITY AND STATISTICS FOR ENGINEERS • ONE OF: INTRODUCTION TO MOLECULAR AND CELLULAR BIOLOGY OR INTRODUCTION TO MICROBIOLOGY • ENGINEERING SYSTEMS ANALYSIS | <ul style="list-style-type: none"> • MATERIAL SCIENCE • WATER MANAGEMENT • ENVIRONMENTAL ENGINEERING SYSTEMS • ENGINEERING AND DESIGN II • NUMERICAL METHODS • 1 RESTRICTED ELECTIVE | WORK TERM ONE |
| THREE | <ul style="list-style-type: none"> • ENGINEERING ECONOMICS • THERMODYNAMICS • WATER QUALITY • HYDROLOGY • SOIL MECHANICS • 1 RESTRICTED ELECTIVE | WORK TERM TWO | WORK TERM THREE |
| FOUR | <ul style="list-style-type: none"> • GEOGRAPHIC INFORMATION SYSTEMS IN ENVIRONMENTAL ENGINEERING • SOIL-WATER CONSERVATION SYSTEMS DESIGN • URBAN WATER SYSTEMS DESIGN • 2 RESTRICTED ELECTIVES | <ul style="list-style-type: none"> • ENGINEERING AND DESIGN III • HEAT AND MASS TRANSFER • GROUNDWATER ENGINEERING • 2 RESTRICTED ELECTIVES • SCIENCE AND TECHNOLOGY IN A GLOBAL CONTEXT | WORK TERM FOUR |
| FIVE | WORK TERM FIVE | <ul style="list-style-type: none"> • WATER RESOURCES ENGINEERING DESIGN IV • WATERSHED SYSTEMS DESIGN • 2 RESTRICTED ELECTIVES | |

BASED ON THE 2022/23 UNDERGRADUATE CALENDAR

PLEASE SEE THE CURRENT UNDERGRADUATE CALENDAR FOR MORE INFORMATION