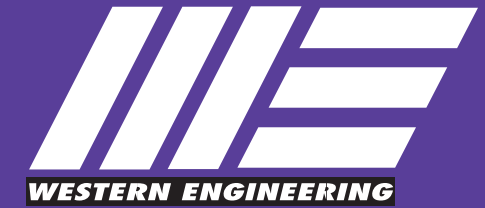




# Western Engineering Summer Academy



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## What's the big idea?



THE WESTERN ENGINEERING SUMMER ACADEMY IS GENEROUSLY FUNDED BY  
THE IMPERIAL OIL FOUNDATION

Imperial Oil has been a major contributor to the growth of the petroleum industry and to Canada's economic and social development for more than 125 years. They have generously donated to the Western Engineering Summer Academy to promote programs designed to spark Canadian students to become interested in science, mathematics and technology.



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The University of  
Western Ontario



# EXPLORE ENGINEERING

THE WESTERN ENGINEERING SUMMER ACADEMY PROVIDES AMBITIOUS STUDENTS IN GRADES 9 - 12, WHO EXCEL IN THE AREAS OF MATH AND SCIENCE, AN ACADEMIC CHALLENGE IN VARIOUS ENGINEERING DISCIPLINES.

Courses are taught by Western Engineering's world-renowned professors and graduate students. Participants are taken on an exciting journey beyond the Ontario High School curriculum. At the end of the weeklong sessions, students will feel prepared for a future university engineering experience.

## TAKE AN INSIDE LOOK

The 2011 Summer Academy offers a variety of fun and informative engineering courses during a four-week timeframe. During Weeks 1 and 3 we will offer the same courses and during Weeks 2 and 4 we will offer the same courses, allowing participants the option to complete two, three or even four weeks in a row.

WEEK 1 (JULY 18 - JULY 22)	WEEK 2 (JULY 25 - JULY 29)	WEEK 3 (AUGUST 8 - AUGUST 12)	WEEK 4 (AUGUST 15 - AUGUST 19)
STRUCTURAL ENGINEERING OR SOFTWARE ENGINEERING	BIOMEDICAL ENGINEERING OR MECHANICAL ENGINEERING	STRUCTURAL ENGINEERING OR SOFTWARE ENGINEERING	BIOMEDICAL ENGINEERING OR MECHANICAL ENGINEERING

Each weeklong course runs Monday to Friday, from 9:30 a.m. - 3:30 p.m. The courses include labs, lectures, workshops and site tours.

## COURSES

- **Software Engineering** – This course introduces students to the fundamentals of software engineering and computer programming through the design and creation of their own video game. Students will learn key concepts, ideas and practices behind one of the newest and fastest growing disciplines of engineering. From beginners looking for an introduction to software design to an expert hoping to improve their skills, this course will provide something for everyone. (Weeks 1 & 3)
- **Structural Engineering** – This course showcases how structural engineers analyze, design, and construct buildings, bridges, transmission towers, and other infrastructure. Advanced building materials such as fibre-reinforced composites and environmentally friendly concrete will be explored, and rehabilitation and maintenance of structures will be discussed. (Weeks 1 & 3)
- **Biomedical Engineering** - This course explores how mechanical, electrical, computer and chemical engineering are used to improve our health care system. Students will learn how to develop a system to improve the alignment of a limb during surgery, using x-ray based imaging tracking technologies. Participants will take part in the process from initial conception to a trial in a simulated surgical environment. (Weeks 2 & 4)
- **Mechanical Engineering** – This course provides participants with hands-on experience as they discover how various principles of mechanical engineering are used in aircraft design. Students will design and test their very own glider while taking part in the process from initial conception to computer analysis to manufacturing and testing. (Weeks 2 & 4)

## REGISTRATION

To apply for the Western Engineering Summer Academy, please visit our website [www.eng.uwo.ca/academy](http://www.eng.uwo.ca/academy) where you will find the 2011 application form.

Mail, email or fax the completed form to the attention of Jennifer Hinton, Outreach Programs Coordinator. Contact information is available on the back of this brochure.

## COSTS

\$300

Financial Assistance: There is limited financial assistance available through our Academy Financial Assistance Program. Students with financial need can apply for assistance to help pay for part of their tuition. In certain situations we are willing to make alternate payment arrangements such as a payment schedule. If you would like more information please contact Jennifer Hinton.

## WHAT'S INCLUDED?

- All materials required for the lectures, labs and workshops
- Western Engineering Summer Academy T-shirt
- Western Engineering notebook and mechanical pencil
- Off site visits

## BUSSING

Bussing is available from Sarnia to London the week of July 25, with an additional cost of \$50 per person. If you would like to inquire about bussing from another location please contact Jennifer Hinton.

## LUNCH

Students must provide their own lunch. Pizza is offered every Friday, at an additional cost.

## STUDENT EXPERIENCES



"It was a great opportunity to learn about this field and it was a great chance to look around Western."

"I would love to come back to the Academy because we get to learn a lot of interesting things and it helped my interest of becoming an environmental engineer become stronger"

"I really enjoyed this week! I have been thinking of doing my Master's in biomedical engineering and having this experience made me realize this is what I want to do in my future. I got hands on experience and learned a lot."