



# YSP YOUTH SUMMER PROGRAM



Faculty of Law | Faculty of Medicine

# About YSP

The University of Toronto is Canada's largest and most prestigious institution of higher learning.

Over the past 190 years, the University of Toronto has established itself as a world class research institution with 24 schools and faculties, 18 fully affiliated teaching hospitals, and 700 programs of study. Its accomplished alumni include four Canadian Prime Ministers, ten Nobel Prize winners, four foreign leaders, and fifteen Supreme Court Judges. With an annual enrollment of over 88,000 students, including more than 17,000 international students, the University is Canada's largest educational institution and continues to be the nation's leader in higher learning and research. The University's St. George Campus, in the heart of downtown Toronto, is a mixture of historical sites and green spaces.

The Youth Summer Program (YSP) was established in 2008. Every summer students from across North America and around the world are offered an exclusive glimpse into the worlds of Medicine and Law. A unique modular-based approach has been used to provide students with a diverse set of subject areas and flexibility. YSP students gain understanding of the practice of Medicine and Law, career opportunities in these fields, and leave equipped with post-secondary education access and success strategies.

Please note YSP fees do not include accommodation, meals, or transport to and from the program. Visit our website ([www.ysp.utoronto.ca](http://www.ysp.utoronto.ca)) for more up to date and detailed information about fees and annual module availability.



## FACULTY OF MEDICINE

Founded in 1843, the Faculty of Medicine catapulted onto the world stage with Sir Frederick Banting's and Charles Best's discovery of insulin in the 1920s. In the 1950s, the implantable cardiac pacemaker was invented at the University. In recent years, the Faculty has led the way in the quest to link genes to disease, having identified genes responsible for muscular dystrophy, cystic fibrosis, Tay-Sachs, congenital blindness, Alzheimer's disease, and the T-cell receptor function relevant to immune disease.

Today, the Faculty of Medicine ranks among the top academic medicine institutions in the world, whether measured in peer-reviewed publications, number of PhD candidates and post-doctoral trainees, or research funding totals. The Faculty has over 5,000 faculty members and 6,000 students, and with its hospital partners, the University of Toronto is the largest research entity in Canada, and one of the largest in North America.

## FACULTY OF LAW

Established in 1887, the Faculty of Law is one of the oldest professional faculties at the University of Toronto. One of the world's great law schools, the Faculty has a dynamic academic and social community with more than 50 full-time faculty members, 15-25 distinguished short-term visiting professors from the world's leading law schools, and 600 undergraduate and graduate students.

The Faculty's rich academic programs are supplemented by its many legal clinics and public interest programs, and its close links to more than 6,500 alumni, who enjoy rewarding careers in every sector of Canadian society and remain involved in many aspects of life at the law school.

# MED YSP

Take an exclusive glimpse into the world of medicine.



From its home in the University of Toronto's Medical Sciences Building, in the heart of Toronto's "Medical Discovery District", the Faculty of Medicine Youth Summer Programs (Med YSP) offers high school students unique medical science modules.

Med YSP features four one-week-long modules in the fields of Physiology, Molecular Biology & Genetics, Pharmacology & Toxicology, and Microbiology. Each of these modules includes lectures from world-class faculty and medical professionals, hands-on experimentation in modern laboratories, and preparation for university admission. These modules are open to students in grades 10 and 11 (or their international equivalents).

Fees include:

- Academic material
- Cost of all supplies and reagents
- Supervision by highly trained instructors
- Opportunities to learn about university life and admissions processes
- Access to laboratory facility
- Career talks with professionals in their respective fields
- Program materials (e.g. lab coat)
- Memories to last a lifetime

All activities will take place at the UofT St. George Campus in the Medical Sciences Building (1 King's College Circle, Toronto, Ontario).

**During Med YSP, you will:**

- Learn from some of the world's leading doctors and research professionals
- Learn a wide range of molecular biology techniques used in the laboratory
- Work in world class laboratories
- Gain a deep understanding of how the body works
- Receive valuable academic enrichment and career guidance

## COURSE MODULES

### HUMAN PHYSIOLOGY

*How the Body Works*

Human anatomy and physiology are the foundations of medicine. In this module, through a series of labs and lectures, students explore the main systems in human physiology including: respiratory, cardiovascular, neuromuscular and sensory physiology. In the laboratory, students have the opportunity to measure lung volumes, blood pressure, determine their own blood type, measure their own visual acuity and hearing, examine reaction times, and record physiological signs involved during a polygraph (Lie Detector Testing).

### PHARMACOLOGY & TOXICOLOGY

*Medications, Drugs and the Body*

For any student planning a career in the medical sciences, pharmacology and toxicology – which examines the interactions between chemical substances and the body – is an essential field of study. In this intensive hands-on module, students are introduced to pharmacogenetics, pharmacodynamics, pharmacokinetics and toxicology. In the laboratory, students examine the phenotype-genotype relationship with caffeine as the model; learn why inheritance may cause the same drug/medication to help one person and elicit an adverse reaction in another; learn how exposure to drugs and chemicals can lead to unwanted or toxic effects; and investigate the effects of chemicals in the environment on the rate of drug metabolism.

### MOLECULAR BIOLOGY & GENETICS

*Applications in Forensics & Medicine*

From personalized medicine to criminal investigations, the science of molecular biology and genetics is at the centre of many of today's most contentious issues. In this module, students learn about genomics technologies, forensic techniques such as DNA fingerprinting, and genetic transformation through a variety of hands-on laboratory activities, interactive discussions, and lectures from world-class speakers. Highlighting the program is the mock crime scene where students collect evidence while learning some of the basics of crime scene investigation from real forensic police officers. They then move into the laboratory where they utilize different experimental methods to analyze the collected evidence and work together to solve the case.

### MICROBIOLOGY

*Microbes and the Body*

Outbreaks of Ebola in West Africa and MERS in the Middle East are a stark reminder of the power of microbes despite major advances in our ability to understand them. Students will hear talks from researchers who are leaders in their field, covering topics such as vaccines, antibiotic resistance, public health microbiology and how microbes cause disease. In the laboratory, students will learn fundamental concepts of microbiology by doing experiments such as measuring sensitivity of bacteria to different antibiotics and common disinfectants, monitoring the effect of viruses on their host cells, isolating and identifying bacteria from environmental surfaces and analysing bacteria in water from different sources. It is intended that through engaging speakers and hands-on experiments in the laboratory, students will develop a better appreciation of microbes and their importance.

### RESEARCH IN THE MEDICAL SCIENCES

*Three Weeks in a Scientist's Lab*

One of the most exciting aspects of science is discoveries that impact and improve the world we live in. A discovery is fundamentally rooted in the process of systematic evaluation, experimentation and deductive reasoning. In this module, students will have an unparalleled opportunity to work in a research laboratory and contribute to ongoing life science projects, under the supervision of a researcher in the Faculty of Medicine. Students will gain invaluable insight and a cohesive understanding of experimentation while carrying out real-world, hands-on scientific research.

Please refer to our website ([www.ysp.utoronto.ca](http://www.ysp.utoronto.ca)) for the most up to date module information and availability.

# LAW YSP

Step into the shoes of a lawyer and engage in complex legal simulations



During the Law YSP, students in grades 10 – 12 (or their international equivalents) spend between one and five weeks at the University discussing legal concepts, learning about the realities of our legal system, and applying their knowledge in a variety of engaging interactive activities.

The Law YSP features five week-long modules in the areas of Criminal Law, Law & Politics, International Law, Corporate Law, and Trial Advocacy. Through lectures, interactions with leading justice sector professionals, fieldtrips to legal institutions, and culminating activities including mock trials and negotiations, each module delivers a thorough, balanced understanding of legal concepts and theories and an introduction to legal practice and advocacy.

## During Law YSP, you will:

- Immerse yourself in the study of law
- Share ideas with other high school students
- Meet and learn from leading justice sector professionals
- Go behind the scenes at some of Canada's largest courts and leading law firms and corporations
- Hone your debating and analytic skills, and learn to "think like a lawyer"
- Receive valuable academic enrichment and career guidance

## Fees include:

- Program supplies and materials
- Fieldtrip costs
- Supervision by highly trained instructors
- Opportunities to learn about university life and admissions processes
- Learning sessions and career talks with professionals in their respective fields
- Law YSP completion certificate
- Law YSP hoodie (one per student per summer)
- Memories to last a lifetime

All activities will take place at the UofT St.George Campus in the Jackman Law Building (78 Queen's Park, Toronto, Ontario) with the exception of field trips.

## COURSE MODULES

### CRIMINAL LAW

*Prosecute and Defend Murder!*

In contrast to the popular portrayal of criminal law in bestselling novels and Hollywood movies, this module engages students in the realities of criminal legal practice by immersing them in the proceedings of a murder trial. In preparation for their culminating mock trials students work with leading criminal litigators to develop complex legal strategies, weigh evidence, consider possible defenses, prepare and examine witnesses, and deliver persuasive arguments in a courtroom setting.

### LAW AND POLITICS

*Debate Policy and Create Law!*

Whose role is it to create law in a democratic society? Who gets to vote or to run for office? How and why does the law change over time? In this module students examine our political framework through a legal lens, develop oral advocacy skills, weigh society's complex needs and interests, and gain a deep understanding of the importance of respectful debate in a democratic society. Engaging with legal experts and exploring leading Canadian political institutions, this module immerses students in a challenging and rewarding political simulation that culminates in a Parliamentary debate.

### INTERNATIONAL LAW

*Confront Global Challenges and Protect Human Rights!*

When is the international community responsible for interfering in cross-border or civil issues? Should global institutions prosecute individuals or censure rogue states? Is there 'one law that binds us all'? Through dynamic workshops, debates, lectures, fieldtrips and interactive activities, students learn to frame issues in the language of international law, explore the world of global human rights, and examine institutions such as the United Nations and the International Criminal Court.

### CORPORATE LAW

*Negotiate Big Business Deals!*

What is a corporation? What are its legal responsibilities and obligations? Relationships between corporations and the law are complex, often surrounded by significant degrees of controversy. During this module students engage with leading corporate lawyers and experts, and visit top Canadian corporate law firms and in-house legal departments. They immerse themselves in complex legal simulations, exploring corporate mergers and acquisitions, contracts, negotiation and corporate social responsibility.

### TRIAL ADVOCACY

*Represent Your Client in Court and Win Your Case!*

What makes lawyers successful in court? How do they persuade judges and juries to rule in their favour? How do they ensure they represent their clients to the best of their abilities? During this module students develop their individual advocacy styles, acquiring a strong understanding of trial processes and courtroom etiquette. Working with leading litigators and justice sector professionals, students develop trial strategies and put their theories of the case to the test in a final mock trial.

Please refer to our website ([www.ysp.utoronto.ca](http://www.ysp.utoronto.ca)) for the most up to date module information and availability.



# Youth Summer Program

Faculty of Medicine

Faculty of Law



## READY TO BE CHALLENGED?

Visit [www.ysp.utoronto.ca](http://www.ysp.utoronto.ca) to apply and for more information.



[www.ysp.utoronto.ca](http://www.ysp.utoronto.ca)



@MedLawYSP



[www.facebook.com/ysp.utoronto](https://www.facebook.com/ysp.utoronto)