



UNIVERSITY OF
TORONTO
MISSISSAUGA

FORENSIC SCIENCE PROGRAM



utm.utoronto.ca/forensic

WHY CHOOSE UTM FOR FORENSIC SCIENCE?

Our courses are taught by forensic and criminal science professionals who bring their own expertise and unique field experience to the classroom. Our faculty consists of highly trained individuals including:



Dr. Tracy Rogers, Director of the Forensic Science Program, was the lead forensic anthropologist at the Pickton pig farm in British Columbia, Canada's largest crime scene, in which many UTM forensic science students assisted in investigation and recovery. Dr. Rogers is also a forensic anthropology consultant for the Ontario Forensic Pathology Service, Office of the Chief Coroner of Ontario.



Dr. Vivienne Luk, Forensic Chemistry, came to UTM from the Centre of Forensic Sciences in Toronto, where she worked as a Forensic Toxicologist. She analyzed biological samples for the presence of drugs, alcohol and poisons and interpreted toxicological findings for the purposes of medical and legal investigations, regularly testifying in court as an expert witness in impaired driving cases, homicides and sexual assaults.



Dr. Nicole Novroski, Forensic Biology, came to UTM from the Center for Human Identification (CHI) at the University of North Texas Health Science Center in Fort Worth, Texas, where she completed her doctoral studies in the Research and Development Laboratory of Dr. Bruce Budowle. Dr. Novroski's research focused on identifying novel short tandem repeat markers for enhanced DNA mixture deconvolution.



Dr. Karen Woodall, Forensic Toxicology, comes to UTM from the Centre of Forensic Sciences in Toronto, as a forensic toxicologist, teaching the forensic toxicology and resiliency training courses. Her current research topics include deaths due to fentanyl abuse and the role of drugs in motor vehicle fatalities. She also regularly provides lectures and training to police officers in the role of forensic toxicology in various criminal investigations.



Dr. Rasmus Rosenberg Larsen, Forensic Psychology, holds a Ph.D. in philosophy from University at Buffalo, New York, focusing on mental health research, moral psychology, and biomedical ontology. His current project involves studies of the theoretical validity of clinical construct, and psychopathy as a mental disease. Rasmus can be found teaching topics regarding the psychology of violence and antisocial conduct, as well as foundational philosophical and scientific issues in mental health research.



Prof. Wade Knaap, Forensic Identification, is a retired police officer with Toronto Police Services, Forensic Identification Unit. He teaches the Forensic Identification field school, giving students proxy experience in crime scene investigation, as well as The Real CSI, which debunks common misconceptions portrayed in TV and the media.

EDUCATION THROUGH EXPERIENCE

The Forensic Anthropology Field School allows students to work in teams and to put themselves in the place of a forensic anthropologist where they learn to search and locate a "missing person" buried on campus. Students learn to map & record the scene, and collect evidence to reconstruct activity relating to the death and deposition of the victim.

The Forensic Identification Field School allows students to experience practical exposure to field and laboratory methods related to evidence recognition, collection, and interpretation. Students work in teams putting themselves in the place of a forensic identification specialist when they are called in to process the "crime scene" that has taken place in the Forensic Science Crime Scene House located on campus. Students must document, collect, process, and analyze the various types of evidence found at the scene.

Internship Opportunities are guaranteed to all students enrolled in one of the Forensic Science Specialist programs. As Canada's first Honours BSc degree program in Forensic Science, UofT Mississauga has developed well-established partnerships over the past twenty years with organizations such as the Centre of Forensic Sciences, the Office of the Chief Coroner for the Province of Ontario, the Ontario Provincial Police, the RCMP, and numerous other police services and agencies worldwide. In their senior year, students may choose to intern with a professional forensic practitioner at one of these agencies, or work in a student-driven collaborative environment, to complete a major research project.

The Forensic Outreach Program gives our students a chance to engage with the wider community in meaningful ways during their time at UTM. Using the skills and techniques they learn in class, student volunteers facilitate workshops and educational activities for the public, from middle & high schoolers, to teachers & adults interested in forensic science. This program gives undergraduate students a chance to practice their presentation and teaching skills, in preparation for further academic and professional careers.



The UTM Forensics Society (IVNVI) is a strong support environment for undergraduate students. IVNVI is an active UTM society that offers workshops on academic skills, program application information sessions, firearms licensing, and organizes trips to Canadian and international forensic science conferences. For more information, visit: utmforensicsociety.wixsite.com/ivnvi



HOW DO I OBTAIN AN HONOURS BSc DEGREE IN FORENSIC SCIENCE?

Contributing to the completion of your Honours BSc Degree, you can choose from two Forensic Science Program options:

OPTION 1) THE FORENSIC SCIENCE MAJOR (ERMAJ0205)

This Major Program can only be completed as part of a Double Major Honours BSc Degree, therefore, the Forensic Science Major requirements MUST be completed together with the second science major requirements (preapproved second science Majors are: Biology Major, Chemistry Major, Anthropology Major, Psychology Major).

9.0 credits are required to complete this program, including at least 2.0 at the 300/400 level. Please refer to the UTM calendar at: <http://student.utm.utoronto.ca/calendar/calendar.pl> for complete listings of required courses needed for completion of the various approved 2nd science major programs listed below:

- Anthropology Major Program (ERMAJ0105)
- Biology Major Program (ERMAJ2364)
- Chemistry Major Program (ERMAJ1376)
- Psychology Major Program (ERMAJ1160)

OPTION 2) FORENSIC SCIENCE SPECIALIST PROGRAMS

In selecting a Specialist program type option, the program course requirements for ONE of the following Forensics Science Specialist Programs below needs to be completed. Please refer to the UTM calendar for full program requirements listed for each individual Forensic Science Specialist Program below: <http://student.utm.utoronto.ca/calendar/calendar.pl>

- Anthropology Specialist Program (ERSPE1338)
- Biology Specialist Program (ERSPE1410)
- Chemistry Specialist Program (ERSPE1009)
- Psychology Specialist Program (ERSPE1505)

WHAT HIGH SCHOOL PREPARATION IS NEEDED?

Students need six Grade 12U/M courses including Grade 12U English. This refers to courses from the Ontario curriculum. We will accept equivalent courses from other academic systems. For more details, visit the Admissions website: <https://www.utm.utoronto.ca/future-students/>

Include the following for Forensic Anthropology Specialist:



- Grade 12U Biology (SBI4U)
- Grade 12 Advanced Functions (MHF4U)

Include the following for the Forensic Psychology Specialist:



- Grade 12U Biology (SBI4U)
- Grade 12 Advanced Functions (MHF4U)

Include the following for Forensic Biology Specialist; Forensic Chemistry Specialist and the Forensic Science Major:



- Grade 12U Biology (SBI4U)
- Grade 12 Chemistry (SCH4U)
- Grade 12 Advanced Functions (MHF4U)



In addition to the above, Grade 12 Calculus and Vectors (MCV4U) and Physics (SPH4U) are highly recommended for the chemistry and biology specialist.

WHAT COURSES ARE TAKEN IN FIRST YEAR UNIVERSITY?

FORENSIC SCIENCE MINOR

A minor program that can be taken in combination with any other specialist or major program including from the Social Sciences and Humanities. This program will complement degrees in criminology, sociology, geography, political science, and any other field that intersects with the legal system. Students will learn forensic theory and at least one applied skill set through lectures and labs.

- FSC239Y5 Introduction to Forensic Science. A final grade of 75% is required

At least 4.0 total credits are required to graduate with this minor degree.

FORENSIC SCIENCE (DOUBLE) MAJOR

In addition to the following 1st year courses required for the FSc Major Program, students must also complete the 1st year course requirements for the student's intended Second Major Program (see below).

- CHM110H5 Chemical Principles I
- CHM120H5 Chemical Principles II
- FSC239Y5 Introduction to Forensic Science
- One of: (MAT132H5, MAT134H5)/(MAT135H5, MAT136H5)/MAT134Y5/MAT135Y5/MAT137Y5/MAT157Y5
- PHY136H5 Introductory Physics I
- PHY137H5 Introductory Physics II

TO ADVANCE TO SECOND YEAR, STUDENTS MUST MEET THE FOLLOWING FIRST YEAR REQUIREMENTS

1. Completion of 4.0 credits; including 3.0 science credits.
2. Completion of CHM110H5, CHM120H5 with 65% or better.
3. Completion of (MAT132H5, MAT134H5)/(MAT135H5, MAT136H5)/MAT134Y5/MAT135Y5/MAT137Y5.
4. A minimum Cumulative Grade Point Average of at least 2.7.
The actual CGPA requirement in any particular year may exceed this value, in order to achieve a proper balance between enrolments and teaching resources.
5. Enrolment in an Approved Second Major (see below).

SECOND MAJOR OPTIONS: 1ST YEAR REQUIRED COURSES

Students wanting Anthropology (BSc) as their Second Major should also include:

- ANT101H5** Intro to Biological Anthropology & Archaeology
- ANT102H5** Intro to Sociocultural & Linguistic Anthropology

Students wanting Biology as their Second Major should also include:

- BIO152H5** Intro to Evolution & Evolutionary Genetics
- BIO153H5** Diversity of Organisms

Students wanting Chemistry as their Second Major should also include:

- BIO152H5** Intro to Evolution and Evolutionary Genetics
- BIO153H5** Diversity of Organisms (recommended)

Students wanting Psychology as their Second Major should also include:

- PSY100Y5** Introductory Psychology
- BIO152H5** Intro to Evolution & Evolutionary Genetics
- BIO153H5** Diversity of Organisms

WHAT COURSES ARE TAKEN IN FIRST YEAR UNIVERSITY FOR FORENSIC SCIENCE SPECIALIST PROGRAMS?



FORENSIC ANTHROPOLOGY SPECIALIST PROGRAM (ERSPE1338)

- ANT101H5 Introduction to Biological Anthropology and Archaeology
- ANT102H5 Introduction to Sociocultural and Linguistic Anthropology
- BIO152H5 Introduction to Evolution and Evolutionary Genetics
- BIO153H5 Diversity of Organisms
- FSC239Y5 Introduction to Forensic Science

TO ADVANCE TO SECOND YEAR, STUDENTS MUST MEET THE FOLLOWING FIRST YEAR REQUIREMENTS

1. Completion of any Gr.12(4U) Biology and Advanced Functions or equivalent
 2. Completion of 4.0 credits; including 3.0 science credits.
 3. Completion of ANT101H5, ANT102H5 each with a grade of 75% or higher
 4. Completion of FSC239Y5 with a grade of 70% or higher.
 5. A minimum Cumulative Grade Point Average of at least 3.0.
- The actual minimum CGPA varies from year to year but is never lower than 3.0

At least 15 total credits are required to graduate from this program.

FORENSIC BIOLOGY SPECIALIST PROGRAM (ERSPE1410)



- BIO152H5 Introduction to Evolution and Evolutionary Genetics
- BIO153H5 Diversity of Organisms
- CHM110H5 Chemical Principles I
 - CHM120H5 Chemical Principles II
- FSC239Y5 Introduction to Forensic Science
- (MAT132H5, MAT134H5)/(MAT135H5, MAT136H5)/MAT134Y5/MAT135Y5/MAT137Y5/ MAT157Y5 *choose one of these MAT courses*
- PHY136H5: Introductory Physics I
- PHY137H5: Introductory Physics II

TO ADVANCE TO SECOND YEAR, STUDENTS MUST MEET THE FOLLOWING FIRST YEAR REQUIREMENTS

1. Completion of 4.0 credits; including 3.0 science credits.
 2. Completion of BIO152H5, BIO153H5 each with a grade of 65% or higher.
 3. Completion of CHM110H5, CHM120H5 each with a grade of 65% or higher.
 4. Completion of FSC239Y5 with a grade of 70% or higher.
 5. Completion of (MAT132H5, MAT134H5)/(MAT135H5, MAT136H5)/ MAT134Y5/ MAT135Y5/MAT137Y5/MAT157Y5.
 6. A minimum Cumulative Grade Point Average of at least 3.0.
- The actual minimum CGPA requirement varies from year to year but is never lower than 3.0

At least 15.5 total credits are required to graduate from this program.



FORENSIC CHEMISTRY SPECIALIST PROGRAM (ERSPE1009)

- BIO152H5 Introduction to Evolution and Evolutionary Genetics
- CHM110H5 Chemical Principles I
- CHM120H5 Chemical Principles II
- FSC239Y5 Introduction to Forensic Science
- (MAT132H5, MAT134H5)/(MAT135H5, MAT136H5)/MAT134Y5/MAT135Y5/MAT137Y5/MAT157Y5 *choose one of these MAT courses*
- PHY136H5: Introductory Physics I
- PHY137H5: Introductory Physics II

TO ADVANCE TO SECOND YEAR, STUDENTS MUST MEET THE FOLLOWING FIRST YEAR REQUIREMENTS

1. Completion of 4.0 credits; including 3.0 science credits.
 2. Completion of CHM110H5, CHM120H5 each with a grade of 65% or higher.
 3. Completion of FSC239Y5 with a grade of 70% or higher.
 4. Completion of (MAT132H5, MAT134H5)/(MAT135H5, MAT136H5)/MAT134Y5/MAT135Y5/MAT137Y5/MAT157Y5.
 5. A minimum Cumulative Grade Point Average of at least 3.0.
- The actual minimum CGPA requirement varies from year to year but is never lower than 3.0

At least 17.0 total credits are required to graduate from this program.



FORENSIC PSYCHOLOGY SPECIALIST PROGRAM (ERSPE1505)

- PSY100Y5 Introductory Psychology
- BIO152H5 Introduction to Evolution and Evolutionary Genetics
- BIO153H5 Diversity of Organisms
- FSC239Y5 Introduction to Forensic Science

TO ADVANCE TO SECOND YEAR, STUDENTS MUST MEET THE FOLLOWING FIRST YEAR REQUIREMENTS

1. Completion of any Gr.12(4U) Biology and Advanced Functions or equivalent
 2. Completion of 4.0 credits, including 3.0 science credits.
 3. Completion of PSY100Y5 with a grade of 75% or higher.
 4. Completion of FSC239Y5 with a grade of 70% or higher.
 5. A minimum Cumulative Grade Point Average of at least 3.0.
- The actual minimum CGPA requirement varies from year to year but is never lower than 3.0

At least 15 total credits are required to graduate from this program.



AFTER GRADUATION



Forensic Science graduates standing with Dr. Tracy Rogers (Director, Professor, Forensic Anthropology), Dr. Nicole Novroski (Professor, Forensic Biology), Dr. Vivienne Luk (Professor, Forensic Chemistry) and Wade Knaap (Professor, Forensic Identification).

The Forensic Science Program prepares students for graduate programs in Anthropology, Biology, Biotechnology, Chemistry, Molecular Biology, Psychology, or Toxicology. Alternatively, graduates may enter professional programs, subsequently establishing successful careers in medicine, law enforcement (either as civilians or sworn police officers), forensic laboratory science, forensic consulting, law, and a wide range of related fields.

For more information, visit the forensic science alumni webpage 'Where Are They Now?' to get an idea of where our graduates are hired, what they are doing, and their achievements.

RECENT ALUMNI HIGHLIGHTS utm.utoronto.ca/forensic/alumni



The forensic courses I took at UTM laid the foundation for methodically documenting procedures and observations.

My Forensic Identification courses specifically prepared me to capture the best possible photographs for demonstrative purposes.

Nina Harnarine, HBSc, Forensic Biology

Nina is a Forensic Document Examiner with Forensic Examiners Inc., examining and comparing writing, signatures, printing, and initials. In addition, She identifies mechanical impressions and instruments including typewriters, chequewriters, stamps, printers, photocopiers and fax machines. She also completes ink and paper examinations, deciphers and examines indented writing, alterations, erasures and obliterations.



Amanda Ferrari, HBSc, Forensic Psychology

Amanda is a Forensic Identification Assistant with York Regional Police. She develops action plans to search, document, collect and preserve evidence from high-volume crime scenes like to break-and-enters, stolen/recovered vehicles, thefts, assaults and warrant executions.

For more information on the program, courses, and the application process, visit <http://www.utm.utoronto.ca/forensic>