TIFFIN UNIVERSITY

ACADEMIC PATHWAY

BACHELOR OF SCIENCE IN FORENSIC SCIENCE

What is Forensic Science?

Forensic science is a multidisciplinary field that applies the principles and techniques of science to investigating crimes. It involves collecting, preserving, analyzing and presenting physical evidence. Forensic scientists work in laboratories, at crime scenes and in courtrooms, providing crucial information that can help to solve crimes, convict perpetrators or exonerate the innocent.

Sub-Disciplines of Forensic Science:

1. **Forensic biology:** Analyzing biological materials (blood, saliva, hair) to identify individuals through DNA profiling and other methods.
2. **Forensic chemistry:** Analysis of chemical substances, including drugs, toxins and explosives.
3. **Forensic toxicology:** Detecting and identifying drugs, alcohol and poisons in body fluids, tissues and the environment.
4. **Forensic pathology:** Determining the cause and manner of death by examining the body of the deceased.
5. **Forensic entomology:** The study of insects and their development stages to estimate the time of death.
6. **Forensic anthropology:** The identification of human remains, often in cases of decomposed, burned or mutilated bodies.
7. **Digital forensics:** Recovering and investigating material found in digital devices, often related to computer crime.
8. **Forensic psychology:** The application of psychology to legal issues and court cases.

Classes and competencies:

Students enrolled in a forensic science program can expect to take various courses designed to provide a comprehensive understanding of forensic data, of both the theoretical and practical aspects. Typical classes include:

1. **Introduction to Forensic Science:** An overview of the field, including the types and collection of evidence and the proper technique of analysis
2. **Criminal Law and Procedure:** Understanding the legal aspects, including the rules regarding the admissibility of evidence.
3. **Chemistry and Biology:** Basic and advanced courses in chemistry and biology to understand the nature of evidence.
4. **Statistics and Data Analysis:** For interpreting data and statistical evidence.
5. **Law and Ethics:** An examination of the principal rules of evidence applicable in the federal and states courts, and ethical considerations applying to the collection, processing, analysis, evaluation and interpretation of evidence.
6. **Internship:** Hands-on experience in related field.

Competencies gained:

Upon completion of a forensic science program, students should have the following competencies:

1. **Analytical skills:** Ability to analyze and interpret various types of evidence.
2. **Attention to detail:** Precision in collecting, preserving and examining evidence.
3. **Communication skills:** Writing reports and presenting findings clearly and concisely.
4. **Legal knowledge:** Understanding legal standards and the ability to testify in court.
5. **Technical proficiency:** Expertise in using laboratory equipment and techniques.
6. **Ethical awareness:** Recognition of the moral and ethical issues inherent in forensic analysis.

This program aims to prepare students for a career in forensic science and related fields, equipping them with the knowledge and skills needed to contribute effectively to criminal investigations and legal proceedings.

SCHOOL OF SCIENCE TECHNOLOGY AND HEALTH

Why study Forensic Science?

Forensic science offers students a unique blend of science, critical thinking and real-world problem-solving, making it an attractive field for those interested in science and criminal justice. There are several reasons why students might choose to enroll in a forensic science program including a contribution to justice in our society through work in a dynamic and challenging field that combines biology, chemistry, physics and mathematics for a comprehensive science experience.

Why TU's program stands out:

1. **Breadth of knowledge:** This program doesn't require students to limit themselves to either a chemistry or biology focus. Students will take 36 hours of biology, 32 hours of chemistry, eight hours of physics and 10 hours of calculus. In comparison to similar programs, students will have multiple career options upon graduation due to their comprehensive understanding of the sciences and how they work together in the world we live in.
2. **Research skills:** Advanced courses include a significant research component, allowing students to develop critical research skills and presenting them at regional and national conferences.
3. **Specialized skills:** Students will gain experience in analysis using gas chromatography-mass spectrometry, high-performance liquid chromatography and fourier transform infrared spectroscopy. They will also conduct DNA sequencing and use our anatomage table for studying anatomy and physiology of the human body as well as performing autopsy simulation.
4. **Integrated curriculum:** Courses designed to link chemical and biological principles directly to forensic applications.
5. **Advisory support:** Guidance from academic advisors to help students manage the demands of this challenging major while ensuring all graduation requirements are met.
6. **Career services:** Support finding internships, research opportunities and job placements that leverage both skills.
7. **Introduction to experts:** Students are giving multiple opportunities to hear directly from experts in the field of forensic science including Environmental Protection Agency (EPA) engineers and pharmaceutical companies.

What can I do with a Forensic Science degree?

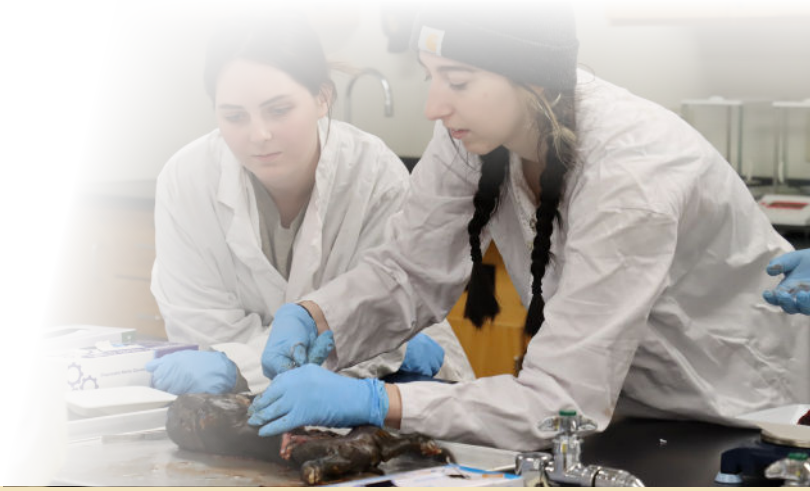
A degree in forensic science can open the door to various career paths, ranging from crime scene investigation to laboratory analysis and beyond. Listed below are some potential careers for graduates, along with relevant graduate programs that could further enhance career prospects and specialization.

Careers include:

- Crime Scene Investigator (CSI)
- Forensic Laboratory Analyst
- Forensic Toxicologist
- Forensic Pathologist Assistant
- Laboratory Scientist

Potential graduate programs:

- Master's in forensic science
- Doctorate in forensic science
- Master's in chemistry
- Doctorate in chemistry
- Master's in biology
- Doctorate in biology
- Professional Health Programs: medicine, pharmacy, dentistry, optometry, physician's assistant or veterinary medicine



How much will I earn with an Forensic Science degree?

Occupation	Total Employment	Mean Annual Wage
Forensic Science Technician	18,500	$63,740
Dentist	155,000	$159,530
Chemist and Materials Scientists	95,000	$81,810
Chemical Engineer	20,800	$106,260
Biochemists and Biophysicists	34,500	$103,810
Medical Scientists	119,000	$99,930
Pharmacists	334,200	$132,750
Environmental Scientist	85,000	$77,000
FBI Agent	35,000	$110,000
ATF Agent	5,000	$148,000
Death Investigator	10,800	$51,000
Physician	817,000	$225,000

What is your pathway to graduation?
Testing into MAT181 or MAT275 or MAT281

YEAR 1	
FIRST YEAR FALL - 16 credit hours	**FIRST YEAR SPRING - 17 credit hours**
DEC100: Engage	FSC115+L: Introduction to Forensic Science
CHM131+L: General Chemistry I	CHM132+L: General Chemistry II
BIO120+L: General Biology I	BIO121+L: General Biology II
MAT281: Calculus I	MAT285: Calculus II
OR	OR
**MAT181: College Algebra AND *CHM131S	**MAT275: Precalculus

**If necessary. *Supplemental course with emphasis on math, 0 credit hour.

YEAR 2: ODD YEARS	
SECOND YEAR FALL - 15 credit hours	**SECOND YEAR SPRING - 15 credit hours**
CHM231+L: Organic Chemistry I	CHM232+L: Organic Chemistry II
BIO211+L: Anatomy and Physiology I	BIO222+L: Anatomy and Physiology II
PHY211+L: Physics I	PHY212+L: Physics II
ENG141: Rhetoric and Research Writing	DEC200: Explore
OR	
MAT281: Calculus I	MAT285: Calculus II

YEAR 2: EVEN YEARS	
SECOND YEAR FALL - 15 credit hours	**SECOND YEAR SPRING - 15 credit hours**
CHM231+L: Organic Chemistry I	CHM232+L: Organic Chemistry II
BIO211+L: Anatomy and Physiology I	BIO222+L: Anatomy and Physiology II
CHM281+L: Analytical Chemistry	CHM481+L: Instrumental Analysis
ENG141: Rhetoric and Research Writing	DEC200: Explore
OR	
MAT281: Calculus I	MAT285: Calculus II

YEAR 3: EVEN YEARS	
THIRD YEAR FALL - 15 credit hours	**THIRD YEAR SPRING - 15 credit hours**
CHM281+L: Analytical Chemistry	CHM481+L: Instrumental Analysis
BIO333+L: Genetics	CHM450+L: Physical Chemistry
ENG141: Rhetoric and Research Writing	DEC300: Connect
DLT101: Digital Literacy and Technology Readiness	COM130: Introduction to Speech Communication
MAT273: Applied Statistics	Internship/ CHM370: Experimental Research Design
	OR
	NAT130: Foundations of Healthy Living

YEAR 3: ODD YEARS	
THIRD YEAR FALL - 15 credit hours	**THIRD YEAR SPRING - 17 credit hours**
CHM335+L: Inorganic Chemistry	CHM411+L: Biochemistry
PHY211+L: Physics I	PHY212+L: Physics II
BIO333+L: Genetics	DEC300: Connect
MAT273: Applied Statistics	COM130: Introduction to Speech Communication
	Internship/ CHM370: Experimental Research Design
	OR
	NAT130: Foundations of Healthy Living

YEAR 4: EVEN YEARS	
FOURTH YEAR FALL - 13 credit hours	**FOURTH YEAR SPRING - 17 credit hours**
CHM335+L: Inorganic Chemistry	CHM450+L: Physical Chemistry
PHY211+L: Physics I	BIO445+L: Cellular and Molecular Biology
BIO333+L: Genetics	FSC215: Evidence Law and Ethics
MAT273: Applied Statistics	DEC400: Impact
	HIS201/ENG201/PHI110/ART210/CUL210

YEAR 4: ODD YEARS	
FOURTH YEAR FALL - 14 credit hours	**FOURTH YEAR SPRING - 17 credit hours**
CHM335+L: Inorganic Chemistry	CHM411+L: Biochemistry
BIO373+L: Microbiology	BIO445+L: Cellular and Molecular Biology
ENG142: Rhetoric and Academic Writing	FSC215: Evidence Law and Ethics
Internship/ CHM370: Experimental Research Design	DEC400: Impact
OR	HIS201/ENG201/PHI110/ART210/CUL210
NAT130: Foundations of Healthy Living	

Testing into MAT095 (Foundations of College Mathematics)

YEAR 1	
FIRST YEAR FALL - 17 credit hours	**FIRST YEAR SPRING - 16 credit hours**
MAT095: Foundations of College Mathematics	MAT181: College Algebra
ENG141: Rhetoric & Research Writing	ENG142: Rhetoric & Academic Writing
DEC100: Engage	DLT101: Digital Literacy& Technology Readiness
FSC115+L: Introduction to Forensic Science	FSC215: Evidence Law and Ethics
BIO120+L: General Biology I	BIO121+L: General Biology II

YEAR 2	
SECOND YEAR FALL - 14 credit hours	**SECOND YEAR SPRING - 14 credit hours**
MAT273: Applied Statistics	DEC200: Explore
CHM131+L: General Chemistry I	CHM132+L: General Chemistry II
BIO211+L: Anatomy and Physiology I	BIO222+L: Anatomy and Physiology II
CHM131S: General Chemistry Supplemental (0 credits)	MAT275: Precalculus
Optional Open Elective	

YEAR 3: ODD YEARS	
THIRD YEAR FALL - 16 credit hours	**THIRD YEAR SPRING - 16 credit hours**
CHM231+L: Organic Chemistry I	CHM232+L: Organic Chemistry II
PHY211+L: Physics I	PHY212+L: Physics II
MAT281: Calculus I	MAT285: Calculus II
NAT130: Foundations of Healthy Living	DEC300: Connect

YEAR 3: EVEN YEARS	
THIRD YEAR FALL - 16 credit hours	**THIRD YEAR SPRING - 16 credit hours**
CHM281+L: Analytical Chemistry	CHM232+L: Organic Chemistry II
CHM281+L: Analytical Chemistry	CHM481+L: Instrumental Analysis
MAT281: Calculus I	MAT285: Calculus II
NAT130: Foundations of Healthy Living	Internship/ CHM370: Experimental Research Design

YEAR 4: EVEN YEARS	
FOURTH YEAR FALL - 14 credit hours	**FOURTH YEAR SPRING - 14 credit hours**
CHM281+L: Analytical Chemistry	CHM481+L: Instrumental Analysis
BIO333+L: Genetics	CHM450+L: Physical Chemistry
HIS201/ENG201/PHI110/ART210/CUL210	DEC400: Impact
DLT101: Digital Literacy and Technology Readiness	COM130: Introduction to Speech Communication
AND	
MAT273: Applied Statistics (if still needed)	

YEAR 4: ODD YEARS	
FOURTH YEAR FALL - 15 credit hours	**FOURTH YEAR SPRING - 15 credit hours**
CHM335+L: Inorganic Chemistry	CHM411+L: Biochemistry
PHY211+L: Physics I	PHY212+L: Physics II
BIO333+L: Genetics	DEC400: Impact
HIS201/ENG201/PHI110/ART210/CUL210	COM130: Introduction to Speech Communication
AND	Internship/ CHM370: Experimental Research Design
MAT273: Applied Statistics (if still needed)	OR
	NAT130: Foundations of Healthy Living

YEAR 5: YEAR 5: EVEN YEARS	
FIFTH YEAR FALL - 13 credit hours	**FIFTH YEAR SPRING - 14 credit hours**
BIO373+L: Microbiology	CHM450+L: Physical Chemistry
ENG142: Rhetoric and Academic Writing	BIO445+L: Cellular and Molecular Biology
DLT101: Digital Literacy and Technology Readiness	FSC215: Evidence Law and Ethics
Internship/ CHM370: Experimental Research Design	DEC400: Impact
AND	
NAT130: Foundations of Healthy Living	

YEAR 5: ODD YEARS	
FIFTH YEAR FALL - 14 credit hours	**FIFTH YEAR SPRING - 14 credit hours**
CHM335+L: Inorganic Chemistry	CHM411+L: Biochemistry
BIO373+L: Microbiology	BIO445+L: Cellular and Molecular Biology
ENG142: Rhetoric and Academic Writing	FSC215: Evidence Law and Ethics
Internship/CHM370: Experimental Research Design	DEC400: Impact
OR	
NAT130: Foundations of Healthy Living	

Below are some additional elective options for specific careers

What if I want to be a doctor?

*Plans only apply to those who test into MAT 181 or higher.

YEAR 3 (REQUIRED)	
THIRD YEAR FALL	**THIRD YEAR SPRING**
PSY101: Introduction to Psychology	SOC101: Principles of Sociology

YEAR 4 (RECOMMENDED)	
FOURTH YEAR FALL	**FOURTH YEAR SPRING**
CUL220: Religions of the World	FOR485: Death and Dying
ENG301: Professional Communication	HCA403: Healthcare Law

What if I want to be a dentist?

YEAR 3	
THIRD YEAR FALL	**THIRD YEAR SPRING**
PSY101: Introduction to Psychology (Recommended)	SOC101: Principles of Sociology (Recommended)

YEAR 4 (RECOMMENDED)	
FOURTH YEAR FALL	**FOURTH YEAR SPRING**
MGT201: Management of Organizations	MGT359: Small Business Management
ACC210: Financial Accounting	MKT151: Introduction to Marketing
ART120: 2 Dimensional Foundations	ART260: Drawing

What if I want to do scientific research (MS/Ph.D. pathway)?

YEAR 3	
THIRD YEAR FALL	**THIRD YEAR SPRING**
SCS300: Research Design	PSY101 Introduction to Psychology

YEAR 4	
FOURTH YEAR FALL	**FOURTH YEAR SPRING**
MAT373: Applied Statistics II	ENG301: Professional Communication

Can I choose a minor?

MINOR OPTIONS			
MATH		COMPUTER SCIENCE	
COURSE NAME	CREDITS	COURSE NAME	CREDITS
MAT385: Calculus 3	3	CST155: Introduction to Operating Systems	3
MAT387: Differential Equations	3	CST201: Introduction to Programming	3
MAT396: Linear Algebra	3	CST230: Networking Fundamentals	3
One MAT elective (300/400)	3	CDS244: Cybersecurity	3
		CST280: Database 1	3
		CST412: IT Project Management	3

Enhance your degree with a designation
Students pursuing careers in dentistry, medicine or veterinary sciences may find themselves wanting to establish a private practice. The small business administration designation will help prepare them for the challenges presented by establishing and running a small business.

Students pursuing careers in research will want a solid foundation in statistical analysis necessary for interpreting the results of their research. The statistical analysis designation will give students a deeper understanding of the types of statistical analyses that can be conducted and help them incorporate them into their work.

DESIGNATION OPTIONS			
SMALL BUSINESS ADMINISTRATION		STATISTICAL ANALYSIS	
COURSE NAME	CREDITS	COURSE NAME	CREDITS
ACC210: Financial Accounting	3	MAT373: Applied Statistics 2	3
MKT151: Introduction to Marketing	3	MAT396: Linear Algebra	3
MGT201: Management of Organizations	3	MAT376: Statistics	3
MGT359: Small Business Management	3		

Stay on track!

YEAR 1

- Meet with your faculty mentor to identify your goals and develop a plan to meet those goals.
- Meet with a biology or chemistry professor about undergraduate research opportunities.
- Explore student organizations on campus.
- Consider job shadowing (especially pre-professional students).

YEAR 2

- Meet with your faculty mentor to ensure you are on track with your goals.
- Get involved with undergraduate research.
- Continue job shadowing to build a professional network.
- Explore graduate/medical/dental/veterinary programs.
- Develop your CV or resume.
- Prepare for graduate admissions exams (GRE, MCAT, DAT etc.).

YEAR 3

- Meet with your faculty mentor to ensure you are on track with your goals.
- Visit career services early in the fall to discuss internships. Apply for internships later in the fall/spring.
- Begin assembling your application packets for graduate school (CV/resume, cover letter, letters of recommendation etc.)
- Plan a course of study for your graduate admissions exams (GRE, MCAT, DAT etc.).

YEAR 4

- Meet with your faculty mentor to ensure you are on track with your goals.
- Meet with your academic advisor to ensure you have taken all the classes needed for graduation.
- Take your graduate admissions exam.
- Apply to graduate/medical/dental school or begin your job search.
- Apply for graduation.

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