



Three Certificate Programs in  
**Forensic Science**

*Giving you investigative skills to broaden  
the scope of your job opportunities*

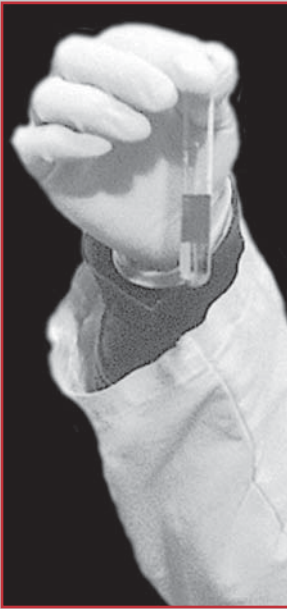
**Certificates in:**

- ▶ **Death Investigation**
- ▶ **Forensic Toxicology**
- ▶ **Forensic Science**



Sponsored by the UWM Center for Forensic Science

[www.uwm.edu/Dept/CFS](http://www.uwm.edu/Dept/CFS)



# Traditional instruction and hands-on experience challenge students as investigators

*Have you ever thought about being part of a team that searches for, collects, and analyzes evidence to solve crimes? The skills you acquire in Forensic Science Programs can be used at modern day crime scenes or anthropological sites. Sharp-witted professionals using forensic science and its technology can convert tiny pieces of evidence — a hair, a splinter of wood, blood, or powder residue — into a story that explains the crime and provides the leads needed to solve it.*

## Who may participate

Certificate Programs are open to all students but are especially suited to students in —

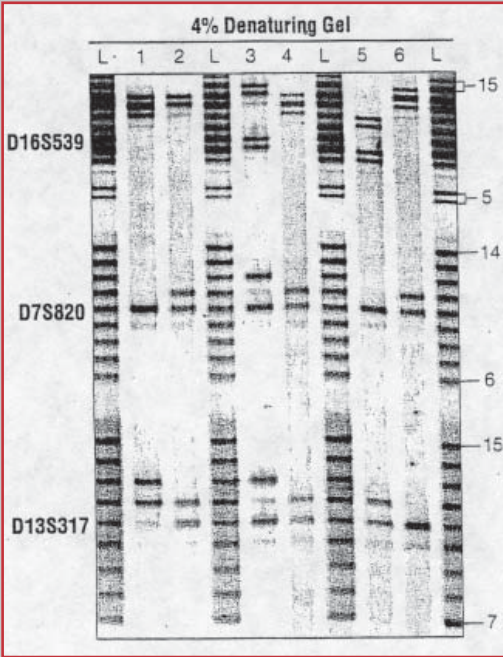
- Health Sciences ● Anthropology ● Biology ●
- Chemistry ● Criminal Justice Programs

Certificate Programs are also particularly valuable to forensic and other working professionals who want to refresh or expand their skills.

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# About the Certificate Programs

Choose from three different areas of forensics: death investigation, forensic science, or forensic toxicology. Each plays a pivotal role in gathering or interpreting evidence. UWM faculty, the Wisconsin State Crime Lab in Milwaukee, and the Milwaukee County Medical Examiner's Office work together in these certificate programs to balance classroom theory and forensic demonstrations with staged and real-life situations. Instruction integrates the many views required in this work: legal, medical, social, and scientific.



► **Death Investigation.** It's the science of reconstruction. These investigators interpret evidence at the crime scene and on the body that tells stories about how the victim died and explain the cause of death.

► **Forensic Science.** It's the application of science to law. What is this piece of evidence? What role does it play in the crime? What does it reveal about what happened at the scene?

► **Forensic Toxicology.** It's the science of toxic substances. These scientists search for and identify substances such as therapeutic drugs, drugs of abuse, poisons, and heavy metals.

A core curriculum is required for all three certificates. This core is then supplemented by courses that advance the special focus of the individual program. Many courses required for a student's major also satisfy the requirements of a certificate program. Certificates are earned *in addition* to a student's major. Typically students who enter the Forensic Science Programs are already working toward a degree in a clinical laboratory science, chemistry, anthropology, biology, or criminal justice. Based on experiences, aptitude, and interest, some students may decide to pursue graduate work in their investigative specialty.

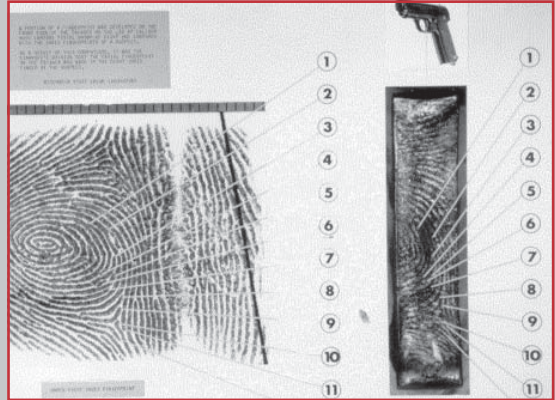
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# Death Investigation

Death Investigation is the science of reconstruction. The Certificate in Death Investigation prepares students to use evidence to explain details about the death: what happened, how, when, where, and who was present? *This certificate program requires a basic knowledge of biology and chemistry.*

The only comprehensive undergraduate program on death investigation offered by a four-year college in Wisconsin, this certificate program, along with additional practical experience, prepares the student for the national certifying exam administered by the American Board of Medicolegal Death Investigators. In addition, the courses in this forensic specialty can be used to advance or refresh the skills of many working professionals in the death investigation field.

*Job opportunities.* Death investigators work in offices of medical examiners and coroners.



# Forensic Toxicology



Forensic Toxicology is the science of toxic substances. This field, a blend of pharmacology and analytical chemistry, focuses on analyzing tissue or fluid for the presence of drugs or toxic substances. *This certificate program requires a strong background and aptitude in chemistry.*

The Certificate in Forensic Toxicology prepares students for certification examinations offered by the American Board of Forensic Toxicology and the National Registry in Clinical Chemistry.

*Job opportunities.* Forensic toxicologists can qualify for positions in crime laboratories, as well as hospital and commercial labs that screen for drugs of abuse.

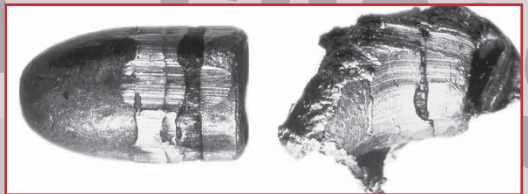
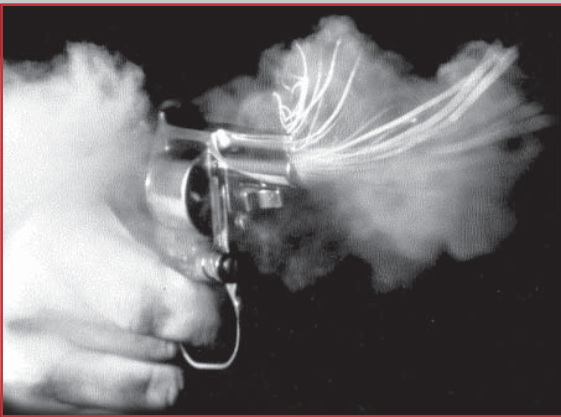
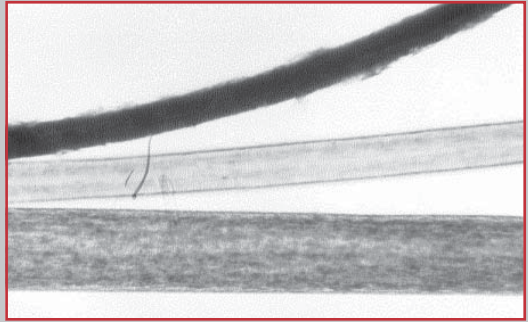
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# Forensic Science

Forensic Science is the application of science to legal questions. Geared to complement students in biology, chemistry, clinical lab sciences, and anthropology, the Certificate in Forensic Science prepares students for a career in evidence analysis. By examining physical evidence found at the crime scene — like fibers, blood, dust, and glass shards — the forensic scientist discovers detailed information, giving field investigators the facts they need to advance the investigation.

Analyzing DNA to ascertain identity with regard to paternity or criminal acts also falls within the arena of forensic science. *This certificate program requires a strong background in biology, chemistry, anthropology, or clinical laboratory sciences.*

**Job opportunities.** Forensic scientists work in crime labs — local, regional, and national — and in paternity identification labs. Students of anthropology can use their skills as a forensic scientist to conduct investigations at archeological sites.



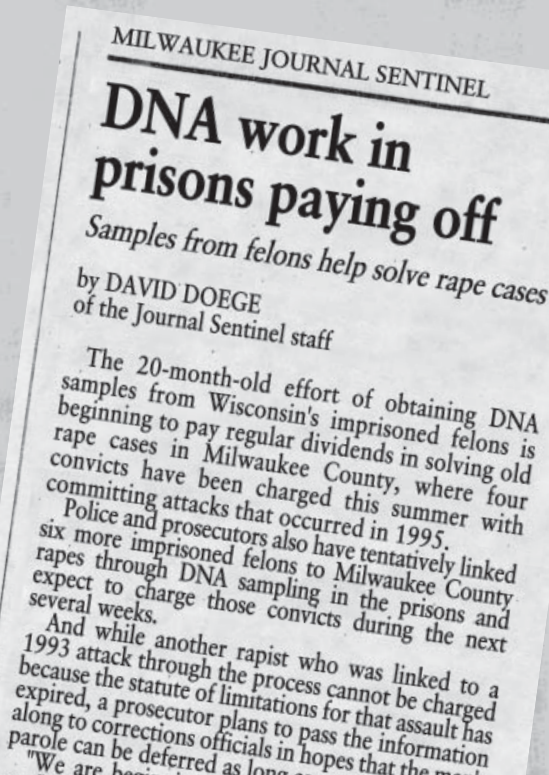
## Learn from experienced professionals

As these two examples of core courses illustrate, students are given opportunities to experience investigation first-hand under the guidance of forensic experts.

### ▶ **Dead Men Do Tell Tales: An Introduction to Forensic Science.**

This course introduces students to the full range of forensic strategies: analyzing ballistics, blood spatter, paint chips, fingerprints, fraudulent documents, and toxic substances, to name just a few. Many of the strategies also apply to investigating anthropological sites. Specialists from the Wisconsin State Crime Lab, Milwaukee County Medical Examiner's Office, and faculty from various departments present information and conduct demonstrations.

### ▶ **Criminalistics.** This course is taught by the retired director of Wisconsin's State Crime Lab in Milwaukee. Students learn first-hand to use their forensic skills by working on a staged crime scene — investigating the scene, collecting, preserving, and analyzing evidence. Students also gain experience in testifying about the evidence in a mock court proceeding.



“It’s even more interesting than what you’ve seen in the movies! You’re piecing together evidence and speculating about what happened at the scene of an unnatural death. It’s a fascinating blend of investigation and science.”

— Student, Dead Men Do Tell Tales

## **Internships available — experience forensic work outside the classroom**

A limited number of optional internships are available. Interns work in the field along side forensic professionals. Currently, the Wisconsin State Crime Laboratory, and Milwaukee County Medical Examiner’s Office are participating in these optional internships.

## **Opportunities for working professionals in related areas**

Certificate programs are also open to working professionals. In earning their undergraduate degree, these professionals may have already fulfilled some or most of the requirements to enter certificate programs. Professionals have the option to earn a certificate or to enroll in select courses to either update or enlarge their knowledge base. Who could benefit from certificate coursework?

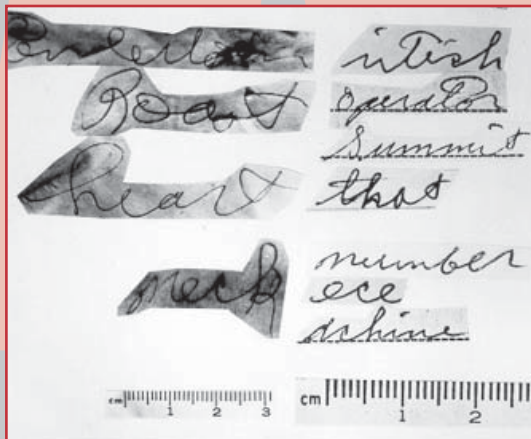
- ▶ Bio-technologists
- ▶ Coroners
- ▶ Forensic Scientists
- ▶ Clinical Laboratory Scientists
- ▶ Nurses
- ▶ Police Officers
- ▶ Psychologists
- ▶ Pharmaceutical Researchers
- ▶ Social workers

# The UWM Center for Forensic Science

*A Collaborative Effort: UWM Faculty and Community Forensic Specialists*

The Center has brought together the expertise of many professionals — from both the professional community and from several disciplines within the campus — to establish the only Forensic Science program in Wisconsin.

The Center strives to use its resources to develop an excellent learning environment that combines classroom preparation/demonstrations with the real-world expertise of the two major forensic facilities in the state. The resulting certificate programs provide a curriculum and experiences that will encompass the medical, legal, scientific, criminal, and social views needed in specialized forensic investigators.



## For more information

Currently enrolled undergraduate students should contact the advising office in their school or college for additional information.

### If your current school or college is:

Health Sciences.....	414-229-2758
Letters and Science.....	414-229-4654
Social Welfare.....	414-229-4852

### Contact:

Graduate students, working professionals and all others seeking enrollment in one of these programs should call 414-229-0510 for information and assistance.

**VISIT OUR WEBSITE AT: [www.uwm.edu/Dept/CFS](http://www.uwm.edu/Dept/CFS)**



## Center for Forensic Science

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### IMPORTANT

- ◆ Each certificate requires a basic knowledge of chemistry and biology. To meet this requirement, students must successfully complete Chem 100 (Chemical Science) or equivalent, and Bio Sci 100 (Survey of Zoology) or equivalent before enrolling in the certificate program.
- ◆ Students must achieve a minimum cumulative 2.5 GPA on courses required for the Certificate(s).
- ◆ Some required courses have prerequisites. Please see an advisor in your school.
- ◆ Some courses are not offered every semester. Please see an advisor in your school for scheduling guidance.
- ◆ ACCC courses are offered through several departments: **A**nthropology, **C**riminal Justice, **C**hemistry, and **C**linical Laboratory Science.

### CORE COURSES required for all three certificates.

Course Number	Course Title	Credits
Crn Jst 110	Introduction to Criminal Justice	3
ACCC 281	Dead Men Do Tell Tales: An Intro. to Forensic Science	3
Crn Jst 480	Criminal Evidence and Investigation	3

Certificate in **DEATH INVESTIGATION** requires Core Courses PLUS the following five courses.

Course Number	Course Title	Credits
Anthro 403	The Human Skeleton	3
Anthro 405	Forensic Anthropology	3
ACCC 481	Criminalistics	3
HCA 212 or C L Sci 610	Drugs Used/Abused or Pharmacology	3
ACCC 285	Medicolegal Death Investigation	3

Certificate in **FORENSIC SCIENCE** requires Core Courses PLUS the following four courses.

Course Number	Course Title	Credits
Anthro 403 or Anthro 404	The Human Skeleton or Heredity, Environment, & Human Population	3
ACCC 481	Criminalistics	3
C L Sci 560 and 561 or Chem 602 or Bio Sci 539	Molecular Diagnostics & Molecular Diagnostics Lab or Gen. Biochem. or Lab. Techniques in Molecular Biology	3 3 4
HCA 212 or C L Sci 610	Drugs Used/Abused or Pharmacology	3

Certificate in **FORENSIC TOXICOLOGY** requires Core Courses PLUS the following four courses.

Course Number	Course Title	Credits
Anthro 403 or Anthro 404	The Human Skeleton or Heredity, Environment, & Human Population	3
ACCC 481	Criminalistics	3
Chem 524	Intermediate Analytical Chemistry	3-5
C L Sci 610	Pharmacology	3

**For more information, contact your advising office or call 414-229-0510**

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#### **Affiliates in UWM's Center for Forensic Science:**

**Fred Anapol**, Ph.D., **Director, Center for Forensic Science**; Professor, Department of Anthropology, UWM College of Letters and Science

**Steven G. Brandl**, Ph.D., Associate Professor, Department of Criminal Justice, Helen Bader School of Social Welfare

**Michael J. Camp**, Ph.D., (Ret.), Former Director, Wisconsin State Crime Laboratory–Milwaukee

**Jana L. Champion**, Director, Wisconsin State Crime Laboratory–Milwaukee

**John Dellinger**, Ph.D., Professor, Department of Health Sciences, College of Health Sciences

**Benjamin A. Feinberg**, Ph.D., Professor, Department of Chemistry and Biochemistry, College of Letters and Science

**Marcia Firmani**, Ph.D., MSPH, MT(ASCP), CLS(NCA), Assistant Professor, Department of Health Sciences, College of Health Sciences

**Susan B. Gock**, M.S. MT(ASCP), Laboratory Director, Milwaukee County Medical Examiner's Office

**Eva M. Lewis**, B.S., B.A., Forensic Scientist Supervisor–Chemistry, Wisconsin State Crime Laboratory–Milwaukee

**Stan Stojkovic**, Ph.D., Dean, Helen Bader School of Social Welfare; Professor, Department of Criminal Justice

**Trudy R. Turner**, Ph.D., Professor, Department of Anthropology, College of Letters and Science

Also, two representatives from the **Milwaukee County Medical Examiner's Office**