

COURSE IMPLEMENTATION DATE:	September 1997
COURSE REVISED IMPLEMENTATION DATE:	September 2007
COURSE TO BE REVIEWED:	March 2011
(Four years after UPAC final approval date)	(MONTH YEAR)

OFFICIAL COURSE OUTLINE INFORMATION

Students are advised to keep course outlines in personal files for future use.

Shaded headings are subject to change at the discretion of the department and the material will vary - see course syllabus available from instructor

FACULTY/DEPARTMENT:	Department of Science, Health & Human Services/Chemistry	
CHEM 150		4
COURSE NAME/NUMBER	FORMER COURSE NUMBER	UCFV CREDITS
	Introductory Forensic Science	
COURSE DESCRIPTIVE TITLE		

CALENDAR DESCRIPTION:

This is an introductory lab course that covers chemical, physical, and biological aspects of forensic science. This course is intended for students who are enrolled in a Criminal Justice program or who require a lab science course to fulfil the requirements for other UCFV programs, including the Bachelor of Arts degree.

WARNING: Some of the course material might be of a disturbing nature.

NOTE: CHEM 150 cannot be used to meet the requirements for the Chemistry major or minor programs. CHEM 150 is not open to students with CHEM 110 or above.

PREREQUISITES: Any one of Biology 11, Chemistry 11, Physics 11, Earth Science 11, or Computer Studies 11

COREQUISITES:

SYNONYMOUS COURSE(S)	SERVICE COURSE TO:
(a) Replaces: _____ (Course #)	_____
(b) Cannot take: _____ for further credit. (Course #)	_____

TOTAL HOURS PER TERM:	72	TRAINING DAY-BASED INSTRUCTION
STRUCTURE OF HOURS:		LENGTH OF COURSE: _____
Lectures: 39 Hrs		HOURS PER DAY: _____
Seminar: _____ Hrs		
Laboratory: 33 Hrs		
Field Experience: _____ Hrs		
Student Directed Learning: _____ Hrs		
Other (Specify): _____ Hrs		

MAXIMUM ENROLLMENT:	24
EXPECTED FREQUENCY OF COURSE OFFERINGS:	Annually
WILL TRANSFER CREDIT BE REQUESTED? (lower-level courses only)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
WILL TRANSFER CREDIT BE REQUESTED? (upper-level requested by department)	<input type="checkbox"/> Yes <input type="checkbox"/> No
TRANSFER CREDIT EXISTS IN BCCAT TRANSFER GUIDE:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

AUTHORIZATION SIGNATURES:

Course Designer(s): _____ Lesley Spier	Chairperson: _____ (Science Curriculum Committee) Art Last
Department Head: _____ Art Last	Dean: _____ Wanda Gordon
UPAC Approval in Principle Date: _____	UPAC Final Approval Date: Mar. 30, 2007

LEARNING OBJECTIVES / GOALS / OUTCOMES / LEARNING OUTCOMES:

Upon successful completion of this course, students will:

- (1) be able to carry out laboratory experiments and interpret results using scientific methodology
- (2) understand the origins, scientific background, significance, and implementation of many forensic procedures that are encountered in the work-place.

METHODS:

Presentation of the course will be by inter-related theory classes ("lectures"), discussion periods ("tutorials"), and weekly laboratory sessions. Audio-visual aids will be used where appropriate, and, if possible, guest speakers will give seminars illustrating the work-place application of forensic science.

PRIOR LEARNING ASSESSMENT RECOGNITION (PLAR):

Credit can be awarded for this course through PLAR (Please check:) Yes No

METHODS OF OBTAINING PLAR:

Examination

TEXTBOOKS, REFERENCES, MATERIALS:

[Textbook selection varies by instructor. An example of texts for this course might be:]

Criminalistics, 9th Edition, R Saferstein.
UCFV Laboratory Manual for CHEM 150.

SUPPLIES / MATERIALS:

All necessary laboratory supplies will be provided.

STUDENT EVALUATION:

[An example of student evaluation for this course might be:]

First in-term test	20%
Second in-term test	20%
Laboratory reports	25%
Final examination	35%

Both the lab and theory parts of the course must be passed in order to pass the course.

COURSE CONTENT:

[Course content varies by instructor. An example of course content might be:]

1. **Introduction.** Definition and scope of forensic science. The scientific method. The role of the forensic scientist in criminal cases.
2. **The Crime Scene and Physical Evidence.** Securing and isolating the crime scene. Recording the scene. Protection of the crime scene. Types of evidence. Collection of evidence. Types of information revealed by physical evidence.
3. **Glass and Soil Analysis.** Physical properties – temperature, mass, density, and refractive index. Composition of glasses and soils. Techniques for identification of glasses and soils.
4. **Fiber and Hair Analysis.** Types of fibers. Nature and structure of hair. Collection of fiber and hair evidence. Identification and comparison of hair and fiber evidence.
5. **Drugs and Toxicology.** Classification and description of drugs. Methods of drug and poison identification. Blood alcohol and breath alcohol analysis.

6. **Serology.** The nature of blood. Characteristics of bloodstains. Analysis of semen and saliva evidence. Collection of evidence involving body fluids.
7. **DNA Analysis.** Biochemistry of DNA. DNA typing.
8. **Fingerprints.** Principles of fingerprints. Classification of fingerprints. Methods of detecting and preserving fingerprints. Fingerprint identification.
9. **Arson Accelerants and Explosives.** Chemistry of fires and fuels. Fire patterns. Collection of arson evidence. Analysis of flammable residues. Types of explosives. Collection and analysis of explosives.
10. **Firearms and Tool Marks.** Comparison of bullets and cartridge cases. Tool and other marks.

Laboratory Experiments

[8 or 9 laboratory experiments could be chosen. Examples might be:]

1. Handwriting and Chromatographic Separation of Inks and Dyes.
2. Analysis of Hair.
3. Alcohol Analysis Lab: The Breathalyser.
4. Shoeprints and Soil Analysis.
5. Fingerprinting Techniques.
6. Blood Analysis.
7. Fabric Identification.
8. DNA Fingerprinting.
9. "Whodunit" Lab.