Forensic Toxicology Syllabus
FS680, Fall 2010

Class Meeting Times.

A revised class meeting schedule will be available during the first week of class. Please attend the first class meeting on Monday 23rd August at 2:00 pm in HL6.

Instructors: Dr. Helen Turner (hturner@chaminade.edu)
Dr. Lee Goff (lgoff@chaminade.edu)

Textbook: Principles of Forensic Toxicology by Barry Levine.

Student Learning Outcomes:

This graduate level course is designed to inform students about the application of toxicology for the purposes of law.

At the conclusion of this course students will demonstrate:

1. An understanding of the major licit and illicit drug classes that are present in human subjects;
2. An understanding of the physiological processes of drug absorption, dispersion, metabolism and excretion that are relevant to drug and metabolite detection;
3. An understanding of the major technologies that apply to forensic drug testing and detection, with reference to their strengths and limitations.

Course Format.

This course has one formal lecture unit per week (Monday session). Two group research sessions are also scheduled, during which time students will work on the research and production of the Assignments listed below. A laboratory session will not be convened each week, but will be offered as extended blocks during the semester in order to allow the use of advanced instrumentation.

Course Requirements.

Four products are required of the course and will constitute the assigned Grade.

Assignment #1: (Turner)

Students will be formed into groups of 2-3 and produce a 20 minute Powerpoint presentation to be presented on Monday September 13, 2010. The topic of this presentation will be a review of a major drug class, specifically (1) identity of common

compounds, (2) reasons for human exposure, (3) physiological consequences of human exposure and (4) legal classification and exposure limits if applicable. Credit will be given for the use of primary (recently published peer-reviewed) papers in the preparation of this presentation.

Assignment #2 (Turner)

Students will be formed into groups of 2-3 and produce a 20 minute powerpoint presentation to be presented on Monday October 4, 2010. The topic of this presentation will be a review of a major drug detection technology, specifically (1) scientific principles of operation of the detection technology, (2) applications to forensic toxicology, (3) limitations of the technology and (4) specimen preparation techniques for the technology. Credit will be given for the use of primary (recently published peer-reviewed) papers in the preparation of this presentation.

Assignment #3 (Goff)

To be announced.

Assignment #4 (Turner)

Each student will produce a research paper of at least 3500 words in answer to one of the two following questions:

A. Describe a successful forensic toxicology case study where two or more complementary analytical techniques were used to resolve a criminal investigation.

Or

B. Discuss failures in forensic toxicology that can arise (a) from deliberate actions by test subjects to confound or evade testing and (b) limitations and false positive/negative data arising from testing methodologies.

This research paper will be prepared in the style of an academic review and must conform to the guidelines provided by either of the following journals:

- Toxicology and Applied Pharmacology. (http://www.elsevier.com/wps/find/journaldescription.cws_home/622951/authorinstructions);
- Journal of Forensic Sciences (http://www.aafs.org/info-authors-0)

The deadline for this paper is 4pm on Friday December 3rd. A hard copy must be turned into Dr Turner's office (Wesselkamper 116) and an emailed PDF must be sent to hturner@chaminade.edu.

Grading:

Class attendance and participation	10%
Assignment #1	30%
Assignment #2	30%
Assignment #3	30%

This is a Graduate Course. Grading will be assigned as follows:

A	Excellent	>85% (4.0)
B	Average	>75% (3.0)
C	Below Average	>65% (2.0)
F	Failure	<65% (0.0)

A C grade will require repeating the course.

Policies:

- Late assignments will not be accepted without prior written approval from the instructor.
- Students using cell phones in class will be asked to leave and will be marked as absent.
- All other academic polices specified by the University Catalog and Student Handbook 2010-2011 apply to this course.
- Details of the course may be subject to change.

++