

## Course Information

Date Submitted: 4/16/2013

Current Prefix and Number: TOX - Toxicology , TOX 509 - BIOCHEM AND ENVIRON TOX

Other Course:

Proposed Prefix and Number: TOX 509

What type of change is being proposed?

Major Change

Should this course be a UK Core Course? No

## 1. General Information

a. Submitted by the College of: College of Medicine

b. Department/Division: Graduate Center For Toxicology

c. Is there a change in 'ownership' of the course? No

If YES, what college/department will offer the course instead: Select...

e. Contact Person

Name: David Orren

Email: [dkorre2@uky.edu](mailto:dkorre2@uky.edu)

Phone: 323-3612

Responsible Faculty ID (if different from Contact)

Name:

Email:

Phone:

f. Requested Effective Date

Semester Following Approval: No OR Effective Semester: Fall 2013

## 2. Designation and Description of Proposed Course

a. Current Distance Learning (DL) Status: N/A

b. Full Title: BIOCHEMICAL AND ENVIRONMENTAL TOXICOLOGY

Proposed Title: ENVIRONMENTAL AND REGULATORY TOXICOLOGY

c. Current Transcript Title: BIOCHEM AND ENVIRON TOX

Proposed Transcript Title: ENVIRONMENTAL AND REGULATORY TOXICOLOGY

d. Current Cross-listing: none

Proposed – ADD Cross-listing :

Proposed – REMOVE Cross-listing:

e. Current Meeting Patterns

LECTURE: 3.0

Proposed Meeting Patterns

LECTURE: 2.0

f. Current Grading System: ABC Letter Grade Scale

Proposed Grading System: ~~Prop Grading Sys~~ ABC Letter Grade Scale

g. Current number of credit hours: 3

Proposed number of credit hours: 2

h. Currently, is this course repeatable for additional credit? No

Proposed to be repeatable for additional credit? No

If Yes: Maximum number of credit hours:

If Yes: Will this course allow multiple registrations during the same semester? No

2i. Current Course Description for Bulletin: Presentation of basic and advanced concepts to provide an integrated description of toxicology, its scope, the unique application of principles that characterize it as a science, and its professional practice. Emphases will include the influence of federal regulations on the practice of toxicology.

Proposed Course Description for Bulletin: Presentation of basic and advanced concepts to provide an integrated description of toxicology, its scope, the unique application of principles that characterize it as a science, and its professional practice. Emphases will include an extensive treatment of relationships between toxicology and environmental exposures and the influence of federal regulations on the practice of toxicology.

2j. Current Prerequisites, if any: Prereq: BCH 501 and PHA 522 or equivalents or consent of instructor.

Proposed Prerequisites, if any: Prereq: ~~BCH 501 and PHA 522 or equivalents or consent of instructor.~~  
BCH 501 or BCH 401G or other equivalent or consent of instructor

2k. Current Supplementary Teaching Component:

Proposed Supplementary Teaching Component:

3. Currently, is this course taught off campus? No

Proposed to be taught off campus? No

If YES, enter the off campus address:

4. Are significant changes in content/student learning outcomes of the course being proposed? Yes

If YES, explain and offer brief rationale: As part of a reorganization of the Toxicology curriculum to accommodate expanded themes in Cancer Biology, the course is being reduced by 1 credit hour (16 sessions), with the specific content being moved to another course (TOX663-Drug Design and Metabolism) that will be required for the Ph.D. degree in Toxicology.

5a. Are there other depts. and/or pgms that could be affected by the proposed change? No

If YES, identify the depts. and/or pgms:

5b. Will modifying this course result in a new requirement of ANY program? Yes

If YES, list the program(s) here: The revised TOX509 course will be changed from a required course for the Ph.D. degree in TOX to an elective. Another course (TOX663-Drug Design and Metabolism) that includes material associated with the reduction from 3 to 2 credit hours will now be required for the Ph.D. degree. The revised TOX509 course will remain a required course for the Master's degree in TOX.

6. Check box if changed to 400G or 500: No

## Distance Learning Form

Instructor Name:

Instructor Email:

Internet/Web-based: No

Interactive Video: No

Hybrid: No

1. How does this course provide for timely and appropriate interaction between students and faculty and among students? Does the course syllabus conform to University Senate Syllabus Guidelines, specifically the Distance Learning Considerations?

2. How do you ensure that the experience for a DL student is comparable to that of a classroom-based student's experience? Aspects to explore: textbooks, course goals, assessment of student learning outcomes, etc.

3. How is the integrity of student work ensured? Please speak to aspects such as password-protected course portals, proctors for exams at interactive video sites; academic offense policy; etc.

4. Will offering this course via DL result in at least 25% or at least 50% (based on total credit hours required for completion) of a degree program being offered via any form of DL, as defined above?

If yes, which percentage, and which program(s)?

5. How are students taking the course via DL assured of equivalent access to student services, similar to that of a student taking the class in a traditional classroom setting?

6. How do course requirements ensure that students make appropriate use of learning resources?

7. Please explain specifically how access is provided to laboratories, facilities, and equipment appropriate to the course or program.

8. How are students informed of procedures for resolving technical complaints? Does the syllabus list the entities available to offer technical help with the delivery and/or receipt of the course, such as the Information Technology Customer Service Center (<http://www.uky.edu/UKIT/>)?

9. Will the course be delivered via services available through the Distance Learning Program (DLP) and the Academic Technology Group (ATL)? NO

If no, explain how student enrolled in DL courses are able to use the technology employed, as well as how students will be provided with assistance in using said technology.

10. Does the syllabus contain all the required components? NO

11. I, the instructor of record, have read and understood all of the university-level statements regarding DL.

Instructor Name:

SIGNATURE|MARYV|Mary V Iwamoto|TOX 509 CHANGE Dept Review|20130413

# **Environmental and Regulatory Toxicology**

**TOX 509 Fall 2014**

**2 Credit Hours**

Dr. Davy Jones - x75412; djones@uky.edu

## **Introduction**

1 Concepts and Principles of Toxicology – Toxicology Ph.D. Student

## **Environmental Toxicology: Human-made Toxicants**

2 Analytical Toxicology – Dr. Thomas Tobin

3 Environ. Aquatic Toxicology Associated w/ Metals and PCBs – Dr. David Price

4 Nanotoxicology – Dr. Jason Unrine

5 Nuclear Receptors as Pesticide Targets – Dr. Davy Jones

6 Toxic Pesticides in Environ. and Alternative Pesticide Strategies – Dr. Subba Palli

7 Toxic Pesticides in Environ. and Alternative Pesticide Strategies – Dr. Subba Palli

8 Arthropod Toxins of Veterinary Importance – Dr. Thomas Tobin

9 Nutritional Toxicants in the Environment – Dr. Thomas Tobin

10 Toxicants in the Occupational Environment - Dr. Ray Garman

11 Exam I on Lectures 1-9

## **Environmental Toxicology: Naturally Occurring Toxins**

12 Arthropod Toxins of Human Clinical Importance – Dr. Davy Jones

13 Arthropod Toxins of Human Clinical Importance – Dr. Davy Jones

14 Anthrax as a Bacterial Toxin in the Environment - Dr. Carol Pickett

15 Plant Toxins of Human and Veterinary Importance - Dr. Davy Jones

## **Forensic Toxicology**

16 Detection of toxicants from the medical examiner's perspective – Dr. Cristin Rolf

17 Detection of toxicants from the medical examiner's perspective – Dr. Cristin Rolf

- 18 Clinical Toxicology – Dr. Peter Oeltgen
- 19 Clinical Toxicology – Dr. Peter Oeltgen
- 20 Exam II on Lectures 12-19

### **Regulatory Toxicology**

- 21 Risk/Benefit – From the perspective of the federal govt – Dr. John Lipscomb
- 22 Risk/Benefit – From the perspective of the researcher – Dr. David Price
- 23 Risk/Benefit – From the perspective of the state govt /environ - Dr. Al Westerman
- 24 Laws regulating radioactive toxicants – Matthew McKinley
- 25 Laws regulating pesticide use and disposal – Dr. Chris Christensen
- 26 Public Policy-Making as Related to Toxicology – Becky Bromley-Trujillo

### **Student Topical Presentations**

- 27 Student Presentation(s)
- 28 Student Presentation(s)
- 29 Student Presentation(s)
- 30 Student Presentation(s)
- 31 Student Presentation(s)
- 32 Student Presentation(s)

FINAL EXAM (III) on Lectures/Presentations 21 – 32

# Environmental and Regulatory Toxicology

## TOX 509 Fall 2014

**Course Description:** The major goals of TOX 509 are to provide a solid foundation in: 1) Environmental Toxicology, 2) Forensic Toxicology, and 3) Governmental regulation of toxicants and xenobiotics. The environmental lectures will address the problems created by both natural toxins and human-made toxicants in our environment.

**Prerequisite academic background** for this course is an introductory graduate level course chemistry of amino acids and proteins, carbohydrates, lipids, and nucleic acids, structure and function metabolism and bioenergetics, and biological information flow (e.g., BCH 501 or BCH 401G or other equivalent, or other academic background with the consent of the instructor).

**The course format** will be primarily didactic. At the end of the course each graduate-level student will present a 30 minute class presentation, followed by discussion, on a particular topic related to Environmental, Regulatory or Forensic Toxicology. Students will submit by October 8, 2013, three (3) candidate topics on which the student would like to speak. The course instructor will identify the final topic for each student. These presentations are designed to give each student experience in presentations in a professional manner, and shall be in Power Point format (link to a pertinent video of several minutes is encouraged). The presentation should reflect literature research that utilizes the primary literature, as well as review articles, i.e., the level of the science must be well beyond that associated with resources such as Wikipedia. Grading of the presentation will be 1) Quality of the slides = 20 points, 2) Quality of the presentation = 20 points, and 3) Ability to handle questions = 10 points, for a total of 60 points.

Exams will be worth 10 points per lecture covered. Class participation (i.e., interaction with the lecturer and in discussion after student presentations) will be worth 40 points as follows. The final course grade will be determined as follows

EXAM 1 - 100 points

EXAM 2 - 100 points

EXAM 3 - 110 points

Class Presentation - 50 points (graduate student enrollees only)

Overall Class Participation - 40 points

TOTAL – 400 points (340 points for undergraduate enrollees)

### Course Grade

Graduate Students

A = 90-100% of total points

B = 80-89% of total points

C = 70-79% of total points

(no D grade)

E = <70% of total points

Undergraduate Students

A = 90-100% of total points

B = 80-89% of total points

C = 70-79% of total points

D = 60-69% of total points

E = <60% of total points

**Course Outcomes :**

Students shall achieve the following outcomes :

Know important or example groups of synthetic toxicants or natural toxins occurring in the environment and their target of action and physiological effect

Know the pathways of exposure of humans to toxicants and toxins and understand how to devise methods of amelioration of potential or actual exposure

Know the broad categories of regulation by which government seeks to ameliorate potential or actual exposure

Be able to integrate the above information into devising new or improved public policies about toxicants or toxins in the environment

Increased ability to research, publicly present and publicly discuss information about toxicants and toxins in the environment

**Mid-term grades** for undergraduates will be posted in myUK by the deadline established in the Academic Calendar (<http://www.uky.edu/Registrar/AcademicCalendar.htm>)

### **Attendance**

Attendance to the class is mandatory and is critical for success in this course. The first unexcused absence will result in a warning by the Section Coordinator. For the second and each subsequent unexcused absence, the student will lose 0.5% of the final grade, which may accumulate up to 5% of the final course grade. Unexcused late arrival for class is not allowed; nor is unexcused early departure from class. Arriving 10 minutes after the class starts will be considered a 50% attendance for the lecture and will be subject to the attendance point deduction accordingly.

Officially recognized reasons for nonattendance (excused absence) may be found in the UK Senate Rules (SR 5.2.4.2), a copy of which is listed below.

"5.2.4.2 Excused Absences: (US: 11/11/85; 2/9/87) the following are defined as excused absences:

- A. Illness of the student or serious illness of a member of the student's immediate family. The instructor/section coordinator shall have the right to request appropriate verification.
- B. The death of a member of the student's immediate family. The instructor/section coordinators have the right to request appropriate verification. (Children of students are considered members of the immediate family).
- C. Trips for members of student organizations sponsored by an academic unit, trips for University classes, and trips for participation in intercollegiate athletic events. When feasible, the student must notify the instructor/section coordinator prior to the occurrence of such absences, but in no case shall such notification occur more than one week after the absence.



- D. Major Religious Holidays. Students are responsible for notifying the instructor/section coordinator in writing of anticipated absences due to their observance of such holidays not later than the last day for adding a class.
- E. Any other circumstances which the instructor/section coordinator finds reasonable cause for nonattendance.”

Students need to notify the professor of absences prior to the class period to be missed when possible.

Students anticipating an absence for a major religious holiday are responsible for notifying the instructor in writing of anticipated absences due to their observance of such holidays no later than the last day in the semester to add a class. Information regarding dates of major religious holidays may be obtained through the religious liaison, Mr. Jake Karnes (859-257-2754).

Per University policy, students are expected to withdraw from the class if more than 20% of the classes scheduled for the semester are missed (excused or unexcused).

#### Verification of Absences:

Students may be asked to verify their absences in order for them to be considered excused. Senate Rule 5.2.4.2 states that faculty have the right to request “appropriate verification” when students claim an excused absence because of illness or death in the family. Appropriate notification of absences due to university-related trips is required prior to the absence.

#### **Academic Integrity:**

Per university policy, students shall not plagiarize, cheat, or falsify or misuse academic records. Students are expected to adhere to University policy on cheating and plagiarism in all courses. The minimum penalty for a first offense is a zero on the assignment on which the offense occurred. If the offense is considered severe or the student has other academic offenses on their record, more serious penalties, up to suspension from the university may be imposed.

Plagiarism and cheating are serious breaches of academic conduct. Each student is advised to become familiar with the various forms of academic dishonesty as explained in the Code of Student Rights and Responsibilities. Complete information can be found at the following website: <http://www.uky.edu/Ombud>. A plea of ignorance is not acceptable as a defense against the charge of academic dishonesty. It is important that you review this information as all ideas borrowed from others need to be properly credited.

Part II of Student Rights and Responsibilities (available online <http://www.uky.edu/StudentAffairs/Code/part2.html>) states that all academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self-expression. In cases where students feel unsure about the question of plagiarism involving their own work, they are obliged to consult their instructors on the matter before submission.

When students submit work purporting to be their own, but which in any way borrows ideas, organization, wording or anything else from another source without appropriate acknowledgement of the fact, the students are guilty of plagiarism. Plagiarism includes reproducing someone else’s work, whether it be a published article, chapter of a book, a paper from a friend or some file, or something similar to this. Plagiarism also includes the practice of employing or allowing another person to alter or revise the work which a student submits as his/her own, whoever that other person may be.

Students may discuss assignments among themselves or with an instructor or tutor, but when the actual work is done, it must be done by the student, and the student alone. When a student's assignment involves research in outside sources of information, the student must carefully acknowledge exactly what, where and how he/she employed them. If the words of someone else are used, the student must put quotation marks around the passage in question and add an appropriate indication of its origin. Making simple changes while leaving the organization, content and phraseology intact is plagiaristic. However, nothing in these Rules shall apply to those ideas which are so generally and freely circulated as to be a part of the public domain (Senate Rules Section 6.3.1).

Please note: Any assignment turned in may be submitted to an electronic database to check for plagiarism.

**Accommodations due to disability:**

If a student has a documented disability that requires academic accommodations, please contact the course director as soon as possible. In order to receive accommodations in this course, the student must provide the course director with a Letter of Accommodation from the Disability Resource Center (Room 2, Alumni Gym, 257-2754, email address: [jkarnes@email.uky.edu](mailto:jkarnes@email.uky.edu)) for coordination of campus disability services available to students with disabilities.

If you have any questions, you may contact Dr. Davy Jones (257-5412; [djones@uky.edu](mailto:djones@uky.edu)) and/or arrange for an appointment at a mutually convenient time.

C/mydoc/courses/Tox509syllabusfall2013

Approved by GC on 2/20/2014

*Roshan Nikou*