

JOHN JAY COLLEGE OF CRIMINAL JUSTICE
THE CITY UNIVERSITY OF NEW YORK
524 W 59th street, New York, New York 10019

Toxicology of Environmental and Industrial Agents

TOX 313

Monday 2:50-5:30 pm, Rm 1.105NB

Instructor: Shu-Yuan Cheng, Ph.D.

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Office hours: TBA and by appointment

Course description: An introduction to the principles of toxicology, absorption, distribution, metabolism, excretion and effects of toxic chemicals such as pesticides, metals, chemical carcinogens, air, water, and soil pollutants, radiation and industrial solvents. Hazardous waste and consumer products.

Learning Objectives:

Students that complete this course will be able to:

Reasoning

- Identify essential risk factors which contribute to the capability of chemicals to elicit biological effects which contribute to human disease.
- Determine the perspective the role of toxicology in the risk assessment process.

Knowledge

- Describe the chemical properties and the biological processes which modulate the toxicokinetics of chemicals --- absorption, distribution, and excretion.
- Explain the biological transformation reactions as a determining factor of the toxicokinetic and toxicodynamic activities of chemicals.
- Describe molecular, cellular and physiological responses resulting from exposure to chemical agents relevant to human health.

Suggested Texts/equipments:

Casarett & Doull's Essentials of Toxicology, Second Edition (Casarett and Doull's Essentials of Toxicology) Curtis Klaassen (Author), John B. Watkins III (Author)

Statement of the College Policy on Plagiarism:

- Plagiarism is the presentation of someone else's ideas, words, or artistic, scientific, or technical work as one's own creation. Using the ideas or work of another is permissible only

when the original author is identified. Paraphrasing and summarizing, as well as direct quotations, require citations to the original source. Plagiarism may be intentional or unintentional. Lack of dishonest intent does not necessarily absolve a student of responsibility for plagiarism.

- It is the student's responsibility to recognize the difference between statements that are common knowledge (which do not require documentations) and restatements of the ideas of others. Paraphrase, summary, and direct quotation are acceptable forms of restatement, as long as the source is cited.
- Students who are unsure how and when to provide documentation are advised to consult with their instructors. The library has free guides designed to help students with problems of documentation.
- This course will use turnitin.com for the paper. Plagiarism will result in an automatic "zero" for the assignment, and the instructor reserves the right to report the academic dishonesty to the college disciplinary mechanisms.

Americans with Disabilities Act (ADA) Policies

Qualified students with disabilities will be provided reasonable academic accommodations if determined eligible by the Office of Accessibility Services (OAS). Prior to granting disability accommodations in this course, the instructor must receive written verification of a student's eligibility from the OAS which is located at L66 in the new building (212-237-8031). It is the student's responsibility to initiate contact with the office and to follow the established procedures for having the accommodation notice sent to the instructor."

Blackboard: Important course announcements, reading assignments, lecture notes, review questions, a discussion forum for Q and A, and other resources will be posted to the course on Blackboard. Please check regularly. Furthermore, students are responsible for checking their John Jay e-mail account regularly for important announcements. Contact DoIT, **not** your instructor, for help with e-mail or Blackboard.

Grades: The grade for TOX313 is a composite of three (3) exams and a paper (3 pages).

(30% the first midterm + 30 % the second midterm + 25 % final + 15% paper)

Grading Scale: The grading scale is the official grading scale for this course. There will be no exceptions to this scale and grades will not be rounded, except as explained here: following all computations, the grade will be rounded to the nearest tenth of a point in Microsoft Excel (one decimal place, e.g., 97.2%). This is the final grade and no further manipulations will be made. The scale will then be strictly used. This means that a 72.949% is a "C-" and a 72.950% is a "C." These calculations are done by the computer so there are no judgment calls or "leniency."

93.0 and above	A
90.0 - 92.9	A-
87.0 - 89.9	B+
83.0 - 86.9	B
80.0 - 82.9	B-
77.0 - 79.9	C+
73.0 - 76.9	C
70.0 - 72.9	C-
67.0 - 69.9	D+
63.0 - 66.9	D
60.0 - 62.9	D-
below 60.0	F

You must check Blackboard and your John Jay E-mail account regularly.

You are responsible for any and all course information, assignments, announcements,

and communication that occurs through blackboard and/or your email account.

Important Policies

Course Attendance: You are required to attend the class sessions. An attendance sheet will be circulated during class. It is your responsibility to sign the sheet *during* class. You will not be permitted to sign the attendance sheet after the class has been dismissed. You will be allowed two (2) absences with no required documentation. However, beginning with the third undocumented absence, your final course grade will be penalized by 20 percentage points (20%) for each undocumented absence. Arrivals later than fifteen (15) minutes after the start of class will count as a one-half absence.

Exams: There will be three (3) exams: two (2) midterms, and one (1) final. The three exams will form 30 points for each midterm and 25 point for the final of the possible 100 points for the course grade.

Paper: A three-page paper will be required. This paper, written in APA style or other scientific style, and citing at least three (3) sources from the scientific literature (two of which must be primary articles). The paper will be turned in and graded in four phases, as shown in the chart below.

Assignment	Due Date	Points
Topic	Feb 20	none
Draft	April 8	5 points
Final paper	May 13	10 points
		Total 15 points

The detail will be given in class. These papers will be graded and checked for plagiarism through turnitin.com.

Course Reading List

Suggested Texts (student purchase, unless library has e-book):

Casarett & Doull's Essentials of Toxicology, Second Edition (Casarett and Doull's Essentials of Toxicology) Curtis Klaassen (Author), John B. Watkins III (Author)

Suggested reference website:

- www.ncbi.nih.gov (Pubmed)
- <http://toxnet.nlm.nih.gov/>

Section	Date	Content
1	Jan 28	Principles of Toxicology
2	Feb 4	Absorption of Toxicants
3	Feb 11	Distribution of Toxicants
4	Feb 20 (Wed)	Biotransformation of Toxicants Paper topic due (0%)
5	Feb 25	Excretion of Toxicants I
6	March 4	Excretion of Toxicants II
7	March 11	Midterm I (30%) Lecture 1-4
8	March 18	Metal I
9	April 8	Metal II Paper draft due (5%)
10	April 15	Pesticides
11	April 22	Midterm II (30%) Lecture 5-9
12	April 29	Organic pollutants
13	May 6	Common Household Hazards
14	May 13	Risk Assessment Paper due (10%)
Final	TBA	Final (25%)