

## BIOCHEMICAL AND MOLECULAR TOXICOLOGY (PGS 384L, #62765) SPRING 2017

**Course Coordinator:** Dr. Karen Vasquez, DPRI 2.214 or BME 3.510A, 512-495-3040

This class meets on **Tuesdays and Thursdays from 9:30-11 am in DPRI 2.232** unless otherwise noted.

**Course Objective:** The overall objective of this course in *Biochemical and Molecular Toxicology* is to highlight important cellular mechanisms, at the biochemical and molecular levels, which are activated in response to environmental toxicant exposure, and their disease relevance. Understanding the mechanistic basis underlying the disruption of these cellular pathways by toxicants that leads to the pathogenesis of disease is a unifying concept for each of the units of this course. Successful completion of this course will prepare graduate students with a foundation of knowledge that will strengthen their ability for critical thinking and performance of laboratory research in mechanistic toxicology.

**Course Communication:** Announcements pertaining to this class will be sent to your registered UT email and/or posted on Blackboard/Canvas (see below). Please watch for these notices as you are responsible for all information sent to you or posted on the Blackboard/Canvas course site. Therefore, check emails and visit the Blackboard/Canvas site regularly.

The *official Blackboard® (or Canvas) website* for this course can be accessed either through UTDirect or via <http://courses.utexas.edu>. Either access point is UTEID-protected, and provides you links to the courses in which you are currently enrolled. Visit this site for additional resources associated with this course (your grades, power point presentations, previous exams, the discussion board, contacting faculty by Email, electronic versions of suggested and **required** readings and hyperlinks).

The website will also be used for official, course-related announcements and for the exchange of class information and questions via the discussion board. Be aware that any messages posted to the discussion board are available to all enrolled students and faculty.

You may also contact faculty members directly via **phone** or **Email**.

### Contact information for participating faculty:

Dr. John DiGiovanni	<a href="mailto:john.digiovanni@austin.utexas.edu">john.digiovanni@austin.utexas.edu</a>
*Dr. Rick Finch	<a href="mailto:rafinch@mdanderson.org">rafinch@mdanderson.org</a>
Dr. Dawit Kidane	<a href="mailto:dawit.kidane@austin.utexas.edu">dawit.kidane@austin.utexas.edu</a>
Dr. Edward "Ted" Mills	<a href="mailto:tedmills@austin.utexas.edu">tedmills@austin.utexas.edu</a>
Dr. Som Mukhopadhyay	<a href="mailto:som@austin.utexas.edu">som@austin.utexas.edu</a>
Dr. John Richburg	<a href="mailto:john.richburg@austin.utexas.edu">john.richburg@austin.utexas.edu</a>
Dr. Carla Van Den Berg	<a href="mailto:cvandenberg@mail.utexas.edu">cvandenberg@mail.utexas.edu</a>
Dr. Karen Vasquez	<a href="mailto:karen.vasquez@austin.utexas.edu">karen.vasquez@austin.utexas.edu</a>
Dr. Guliang Wang	<a href="mailto:guliang.wang@austin.utexas.edu">guliang.wang@austin.utexas.edu</a>

**\*Please note**, faculty participants denoted with asterisks have offices located off campus and will require advanced notice to schedule meetings.

**Grading:** There will be four in-class exams (~90 minutes each). Each exam format may vary depending upon the lecturing faculty; but routinely will be in the format of short essay answers. Each student will need to plan his/her efforts accordingly to complete the exam within the allotted time. There will be **no remediation** in this course to improve one's score or grade in the class. Therefore students need to be prepared to commit the necessary time and effort for successful completion of this class. Students encountering difficulties in this course should contact the course director *prior to* taking an exam or completing the course to determine if other alternatives may be available.

The distribution of the points for each instructor on these exams could include points for outside assignments as well as an in class exam questions. These contributions will be weighted exactly to the contribution of each individual instructor's teaching participation. The course is generally not curved, and there will be no arbitrary adjustments or rounding off of grades. For example, an 89 will be assigned a B+ and not adjusted to an A-. The "weight" of each exam and grading scale is as follows:

<b>First exam</b>	25%
<b>Second exam</b>	25%
<b>Third exam</b>	25%
<b>Fourth exam</b>	25%
	Total: 100%

A <sup>+</sup> = 97-100 %	C <sup>+</sup> = 76-79 %
A = 93-96%	C = 73-76 %
A <sup>-</sup> = 90-93%	C <sup>-</sup> = 70-72%
B <sup>+</sup> = 87-89%	D <sup>+</sup> = 67-69 %
B = 83-86%	D = 63-66 %
B <sup>-</sup> = 80-82 %	D <sup>-</sup> = 60-62 %
	F = ≤ 59 %

\*Students in the graduate program in Pharmacology/Toxicology need to earn a grade no lower than a "B-" in this course to remain in "good standing" in the graduate program.

Required assignments (e.g., out of class readings etc.) and due dates will be determined by the individual instructors. Each instructor will grade you on the quality of your class participation, out-side assignments as well as in class exams. Pay attention to deadlines/due dates: assignments turned in late will result in penalized scores.

**Academic Dishonesty:** Plagiarism or academic dishonesty will not be tolerated. In addition, a sense of responsible professional behavior is a critical component of professional education, and high standards of ethical conduct are expected of graduate students. Any student suspected of dishonesty or unprofessional behavior will be reported to the Dean of the College of Pharmacy and to the Dean of Students, as per University regulations. Students are expected to have read and understood the current issue of the General Information Catalog published by the Registrar's Office for information about procedures and about what constitutes scholastic dishonesty. Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including failure of the course involved and dismissal from the college and/or the University.

**Students with Disabilities:** The University of Texas at Austin provides upon request appropriate academic accommodations for qualified students with disabilities. All University rules concerning accommodations must be followed, including the student arranging for special accommodations **prior to each examination**. In the absence of such **prearrangement**, the student will be assumed that the student is not requesting special accommodations for that exam, and will be expected to take the exam with the rest of the class at the regularly scheduled exam time. For more information, contact the Office of the Dean of Students at 471-6259, 471-4641 TTY.

## Syllabus

This class meets on **Tuesdays and Thursdays from 9:30-11 am in DPRI 2.232** unless otherwise noted.

Tuesday Jan. 17	DNA Structure and DNA Adducts	Dr. Karen Vasquez
Thursday Jan. 19	DNA Damage and Repair	Dr. Karen Vasquez
Tuesday Jan. 24	Epigenetics and Genome Stability	Dr. Guliang Wang
Thursday Jan. 26	Epigenetics and Genome Stability	Dr. Guliang Wang
Tuesday Jan. 31	Inflammation and Cancer	Dr. Dawit Kidane
Thursday Feb. 2	Inflammation and Cancer	Dr. Dawit Kidane
Tuesday Feb. 7	<b>REVIEW #1 (Drs. Vasquez, Wang, and Kidane)</b>	
Thursday Feb. 9	<b>EXAM #1 (lectures from Jan. 17 through Feb. 2)</b>	
Tuesday Feb. 14	Inflammatory Signaling	Dr. Dawit Kidane
Thursday Feb. 16	Inflammatory Signaling	Dr. Dawit Kidane
Tuesday Feb. 21	Apoptosis: Death Receptors	Dr. John Richburg
Thursday Feb. 23	Apoptosis: Death Receptors	Dr. John Richburg
Tuesday Feb. 28	Protein Trafficking and Human Disease	Dr. Som Mukhopadhyay
Thursday Mar. 2	Protein Trafficking and Human Disease	Dr. Som Mukhopadhyay
Tuesday Mar. 7	<b>REVIEW #2 (Drs. Kidane, Richburg, and Mukhopadhyay)</b>	
Thursday Mar. 9	<b>EXAM #2 (lectures from Feb. 14 through March 2)</b>	
<b>WEEK OF MARCH 14</b>	<b>SPRING BREAK</b>	
Tuesday Mar. 21	Cancer Metabolism	Dr. Ted Mills
Thursday Mar. 23	Cancer Metabolism	Dr. Ted Mills

Tuesday Mar. 28	Cellular Signaling in Cancer and Metastasis	Dr. Carla Van Den Berg
Thursday Mar. 30	Cellular Signaling in Cancer and Metastasis	Dr. Carla Van Den Berg
Tuesday Apr. 4	<b>REVIEW (Drs. Mills and Van Den Berg)</b>	
Thursday Apr. 6	<b>EXAM #3 (lectures from March 21 through March 30)</b>	
Tuesday Apr. 11	No Class-RESEARCH DAY	
Thursday Apr. 13	Carcinogenesis: Carcinogen Activation	Dr. John DiGiovanni
Tuesday Apr. 18	Carcinogenesis: Tumor Initiation	Dr. John DiGiovanni
Thursday Apr. 20	Carcinogenesis: Tumor Promotion/Progression	Dr. John DiGiovanni
Tuesday Apr. 25	COLLEGE OF PHARMACY RESEARCH EXCELLENCE DAY	No Class
Thursday Apr. 27	Toxicology Studies and Drug Metabolism	Dr. Rick Finch
Tuesday May 2	<b>REVIEW (Drs. DiGiovanni and Finch)</b>	
Thursday May 4	<b>EXAM #4 (lectures from April 13 through April 27)</b>	

## Definitions and Agreement Regarding Academic Dishonesty

Source Wikipedia (<http://en.wikipedia.org/wiki/Plagiarism>) accessed Jan 9, 2008

“**Academic dishonesty** or **academic misconduct** is any type of cheating that occurs in relation to a formal academic exercise. It can include:

- Plagiarism—The adoption or reproduction of ideas or words or statements of another person without due acknowledgment.
- Fabrication—The falsification of data, information, or citations in any formal academic exercise.
- Deception—Providing false information to an instructor concerning a formal academic exercise—*e.g.*, giving a false excuse for missing a deadline or falsely claiming to have submitted work.
- Cheating—Any attempt to give or obtain assistance in a formal academic exercise (like an examination) without due acknowledgment.
- Sabotage—Acting to prevent others from completing their work. This includes cutting pages out of library books or willfully disrupting the experiments of others.”

“**Plagiarism** is the practice of claiming or implying original authorship of (or incorporating material from) someone else's written or creative work, in whole or in part, into one's own without adequate acknowledgement. Unlike cases of forgery, in which the *authenticity* of the writing, document, or some other kind of object itself is in question, plagiarism is concerned with the issue of false *attribution*. Plagiarism can also occur unconsciously.”

“Within academia, plagiarism by students, professors, or researchers is considered academic dishonesty or academic fraud. Some individuals caught plagiarizing in academic or journalistic contexts claim that they plagiarized unintentionally, by failing to include quotations or give the appropriate citation. While plagiarism in scholarship and journalism has a centuries-old history, the development of the Internet, where articles appear as electronic text, has made the physical act of copying the work of others much easier, simply by copying and pasting text from one web page to another.”

“Plagiarism is different from copyright infringement. While both terms may apply to a particular act, they emphasize different aspects of the transgression. Copyright infringement is a violation of the rights of the copyright holder, when material is used without the copyright holder's consent. On the other hand, plagiarism is concerned with the unearned increment to the plagiarizing author's reputation that is achieved through false claims of authorship.”

*Note: Intentional or unintentional, the consequences and penalties invoked if a student shows academic dishonesty in this class will be upheld. Penalties will include a zero score for the exam and/or removal from the University or Graduate Program.*

I have read and understand the course syllabus for **Biochemical and Molecular Toxicology**. I understand the definition and potential consequences of academic dishonesty.

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Student Signature

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Date