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Fall 2015

## BIOS 2105

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*University of New Orleans*

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### Recommended Citation

Williams, Patricia M., "BIOS 2105" (2015). *University of New Orleans Syllabi*. Paper 156.  
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**Bios 2105 Fall 2015 Syllabus**

8/20/15

**Course Title: Environmental Toxicology**

**Department: Biological Sciences**

**Professor: Patricia M. Williams, Ph.D. DABT**

**Office: 312 CERM Building, Lakeshore Drive, Research and Technology Park**

**Office hours 2:45-3:45 pm Tuesdays or by appointment**

**Phone: office 504-280-5543**

**e-mail: [pmwilli3@uno.edu](mailto:pmwilli3@uno.edu)**

**3 hour lecture course (3 hr credit)**

**Lectures on Tuesdays 4:00 pm – 6:45 pm**

**Room: Geology and Psychology Bldg 1023**

**Course Description:**

Environmental Toxicology is the study of the impacts of pollutants/toxicants upon man and animals. It is also the study of natural products of the environment and their use/misuse and impacts/benefits on man and animals. Practical and current topics in toxicology will be integrated into scientific discussions. The topic for this semester is the toxicology and pharmacology of Herbal Products and Dietary Supplements. Use of Natural environmental herbal and dietary supplements have become very popular and are mostly unregulated so can be purchased over the counter. Discussions of promotions of such natural environmental products and environmental legislation pertinent to this area are included in the lectures. For undergraduate students with a minimum of 24 hours of college courses. *3 credit hours lecture*

**Lecture Syllabus:**

8/25/15 Introduction to Environmental Toxicology: explanation of syllabus and grading format; Basic concepts of Toxicology: “The Dose Makes the Poison” Paracelsus, the Father of Toxicology; Concept of Dose; Dose Response curves, dose frequency; Completed Exposure Pathways; Susceptible populations vs resistant populations; Hormesis; Homeostasis;

9/1/15 Absorption, distribution, and elimination of toxicants; Mechanism of action; Ultimate Toxicant; Interactions of Mixtures of Toxicants; Synergism, Additive, Potentiation and Antagonism; LD50 and LC 50; Mother Nature’s Own: Herbal Products: Introduction and Overview

9/8/15 Legal and Regulatory Aspects of Herbal Products; Student presentation; St. John’s Wort

9/15/15 Student presentations; Kava; Ginkgo biloba

9/22/15 Exam #1

- 9/29/15 No Class—Environmental Mutagenesis and Genomics Society Meeting—students invited
- 10/6/15 Student presentations; Garlic; Ginger; Cranberry
- 10/13/15 Student presentations; Licorice; Chamomile; Aloe
- 10/20/15 Legal and Regulatory Aspects of Dietary Supplements; Student presentation; Androstenedione and Other-Over-the-Counter Steroids
- 10/27/15 Student presentation; Dehydroepiandrosterone (DHEA) Prasterone)
- 11/3/15 Exam #2
- 11/10/15 Student presentation; Fish Oil
- 11/17/15 Student presentation; Glucosamine and Chondroitin
- 11/24/15 Student presentations; Melatonin; Pyruvate; Shark Cartilage
- Thanksgiving Holidays November 26-27
- 12/1/15 Remaining advertisement/promotions
- 12/8/15 Final Lecture Exam 5:30-7:30 pm**

**Reference Text: Toxicology and Clinical Pharmacology of Herbal Products, Melanie Johns Cupp, ed. Humana Press Inc., Totowa, New Jersey; 2000.**

**Dietary Supplements: Toxicology and Clinical Pharmacology; Melanie Johns Cupp and Timothy S. Tracy, ed.; Humana Press Inc., Totowa, New Jersey, 2000.**

**Grading:**

Students will be assessed using three written exams. Three exams will be administered representing 100% of the student's total grade. Each exam will be worth 33.33% of the total grade. One herbal product or dietary supplement will be chosen by the student for presentation of examples of advertisements/promotions and MSDS sheets for comparison to the scientific body of knowledge on the product or supplement. The student will earn extra credit on their final exam grade. (up to 5 pts on final grade)

<b>FIRST LECTURE EXAM</b>	<b>33.33 %</b>
<b>SECOND LECTURE EXAM</b>	<b>33.33 %</b>
<b>THIRD LECTURE EXAM (FINAL)</b>	<b>33.33 %</b>

All lecture exams are multiple choice. Item analysis is performed for quality assurance. The Final exam is not a cumulative exam. Bonus questions are provided. Failure to take any of the lecture exams on the scheduled date and time will not be excused without a valid University excuse (illness of the student, or of an immediate family member, death of an immediate family member, participation on trips related to certain University functions, major religious holidays).

**Grading Scale**

90 – 100	A
80 – 89	B
70 – 79	C
60 – 69	D
below 60	F

**Academic Dishonesty (edited from the UNO Policy Manual):**

Fundamental to the learning process and evaluating academic performance is academic honesty. Maintaining such integrity is the responsibility of all members of the University. All faculty members and teaching assistants should encourage and maintain an atmosphere of academic honesty. They should explain to students the regulations defining academic honesty and the sanctions for violating these regulations. However, students must share the responsibility for creating and maintaining an atmosphere of honesty and integrity. Students should be aware that personally completing assigned work is essential to learning. Students who are aware that others in a course are cheating or otherwise committing academic dishonesty have a responsibility to bring the matter to the attention of the course instructor and/or academic unit head, or the Assistant Dean. Academic dishonesty includes, but is not limited to, the following: cheating, plagiarism, academic misconduct, falsification/fabrication, and being an accessory to acts of academic dishonesty.

**University Commitment on Disability Services**

The University of New Orleans (UNO) is committed to providing for the needs of enrolled or admitted students who have disabilities under Section 504 of the Rehabilitation Act of 1973 and the Americans with disabilities Act of 1990 (ADA). In general, University policy calls for reasonable accommodations to be made for students with documented disabilities on an individualized and flexible basis. It is the responsibility of students, however, to seek available assistance at the University and to make their needs known.

**University Policy on Sexual Harassment**

Sexual harassment is unacceptable behavior and will not be tolerated. Sexual harassment is a violation of state and federal law. Sexual harassment has a negative impact on the functioning of the University. Consequently, all members of the University community must be sensitive to the possibility of sexual harassment whether intended or inadvertent. Individuals must recognize this potential and act to prevent it. When sexual harassment has occurred, the University shall take effective and expeditious action.

**University policy on Religious holidays for which the University is not closed**

The University of New Orleans permits students who observe religious holidays without an academic penalty. Alternative arrangements with students who request permission to observe such holidays will be granted. It is the student's responsibility to make such a conflict of course

schedule known to the instructor at the beginning of the semester so that alternate arrangements for exams may be met with fairness to all students.

### **Course Attendance**

Attendance at class is mandatory. Power point lecture slides will not be provided to those with unexcused absences. Attendance Roll will be taken at each class. Consequences of non-attendance will fall on the student to make up all class work and exams and obtain all class handouts/notes from other class attendees . Do not request missed information from the instructor.

### **Make-up Exams**

An exam that is not taken on the scheduled date may be excused by the instructor for extenuating circumstances and with documentation to support the reason for the excuse. A written request for the make-up exam with support documentation must be provided to the instructor on the first day of return to the University for classes. If the absence from the exam does not warrant an excused absence, the grade for the missed exam will be zero. If the absence is excused with support documentation of the emergency/urgent need for the absence, then a cumulative course makeup exam will be given after the last laboratory class on April 30th. The make-up exam for an excused absence will be administered at the end of the semester as a cumulative makeup exam for the entire course. It is the student's responsibility to notify the instructor of the reason for non-attendance of the exam no later than the student's first day of return to classes at the University. Do not assume that the exam will be excused prior to receiving the instructor's review of support documentation. The instructor shall be notified by e-mail and cell phone (504-915-1817) as to the date of return to classes at the University by the student. Only one excused absence for a missed lecture exam will be issued for extenuating circumstances with support documentation. If support documentation is not provided for the missed exam or the excuse is not of an emergency/urgent nature, the exam will not be excused and no makeup exam will be given to the student. A grade of zero will then be assigned. If a second exam is missed, the grade will be zero. There will be no make-up lecture exam for a second missed exam. There are no laboratory make-up exams. The lowest grade for laboratory exams is dropped. If there is a missed laboratory exam, that will be the dropped grade. If there is a second missed laboratory exam, a grade of zero will be entered for that exam. Because of the nature of a make-up exam and the extended time for study, no item analysis and no bonus questions are provided.

### **Office Hours**

Office hours for student consultation will be conducted at 312 CERM from 2:45 to 3:45 pm on Tuesday. Other consultation by appointment.

e-mail address: [pmwilli3@uno.edu](mailto:pmwilli3@uno.edu)

office phone: 504-280-5543

cell phone: 504-915-1817

### **Course Objectives and Student Learning Goals:**

- 1. The student will have a basic understanding of the principles of toxicology**
- 2. The student will be able to identify natural environmental products used as over the counter medicines or supplements**
- 3. The student will be able to discuss the interaction of mixtures**
- 4. The student will be able to distinguish between the product marketing information and the scientific body of knowledge for each herbal product or dietary supplement.**
- 5. The student will have an appreciation of the applicable regulatory laws for over the counter herbal products and dietary supplements.**

- 6. The student will understand the toxicity of each herbal product and dietary supplement.**