



University of Puerto Rico
Mayagüez Campus
College of Agricultural Sciences
Program of Food Science and Technology



OFFICIAL SYLLABUS

**FOOD TOXICOLOGY
CITA 6017**

Credit Hours: 3	Contact Hours: 3 hours of lecture per week
Prerequisites:	Co-requisites:
Course Description (English): Study of the formation, characteristics, and control of potentially toxic components that occur naturally or are induced during food processing.	
Course Description (Spanish): Estudio sobre la formación, las características y el control de componentes potencialmente tóxicos de ocurrencia natural o inducidos durante el procesamiento de alimentos.	
Learning Objectives: At the end of the course the students will be able to: <ul style="list-style-type: none">• Recognize current laws, regulations and procedures for food safety assessment and risk characterization of food toxins• Describe principles of food toxicology related to toxin sources, mechanisms and routes of exposure and absorption• Identify potentially toxic constituents present in the food supply intentionally or naturally-occurring• Evaluate the effect of toxins on the tissues, organs and biological process of human body• Evaluate the origins, symptoms, diagnosis and treatment of diseases caused by toxins	

Content Outline and Time Distribution:

<i>Topics to be covered</i>		<i>Contact hours</i>
I.	General Information on Toxicology Definition of Toxicity and Classification of Toxins Toxication	4
II.	The effect mechanism of toxins Routes of xenobiotics in an organism Toxicity Test Epidemiology Toxic Response Carcinogenesis, mutagenesis and teratogenesis Dosis	4
III.	Natural sources of toxicants in foods	4
IV.	Fungal Toxins	4
V.	Pesticides residues	2
VI.	Natural sources of toxicants in animals	4
VII.	Drugs	1
VIII.	Seafood toxins and poisoning	2
IX.	Environmental Contaminants	4
X.	Toxicants resulting from food processing	4
XI.	Food additives	4
XII.	Vitamins	4
XIII.	Emergent issues in Food Toxicology	4
<i>Total hours: (equivalent to course contact period)</i>		45.0

<i>Laboratories</i>		<i>Contact hours</i>
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
<i>Total hours: (equivalent to laboratory contact period)</i>		0.0

Instructional Techniques:

- conference discussion computation laboratory
 seminar with formal presentation seminar without formal presentation workshop
 art workshop practice trip thesis special problems
 tutoring research others, please specify:

Learning Resources and Minimum Facilities Available or Required:

Projector, laptop

Evaluation Techniques and Relative Weight:

	Percent
<input checked="" type="checkbox"/> Exams (<u> 2 </u> at <u>33.3 </u> % each)	66.6%
<input checked="" type="checkbox"/> Final exam	33.3%
<input type="checkbox"/> Short quizzes	
<input type="checkbox"/> Laboratory	
<input type="checkbox"/> Oral reports	
<input type="checkbox"/> Monographies	
<input type="checkbox"/> Portfolio	
<input type="checkbox"/> Journals	
<input type="checkbox"/> Projects	
<input type="checkbox"/> Others, specify:	
TOTAL: 100%	100%

Reasonable Accommodation(Law 51)

The University of Puerto Rico at Mayagüez (RUM) recognizes that each student has an inherited right to request reasonable accommodation according to Law 51: Law for Integral Educational Services for People with Disabilities. Every student has the right to receive reasonable accommodation if he/she presents the necessary evidence to be evaluated by the Office of Services to Students with Disabilities (OSEI-RUM), and the related information can be found at the following link: <https://www.uprm.edu/cms/index.php/page/85>. If your case is approved by OSEI-RUM, you will receive reasonable accommodation in your courses and evaluation, and you must contact each professor for course registered. For additional information contact OSEI-RUM at Sánchez Hidalgo 410 or via telephone 787-832-4040 extension 3107.

Academic Integrity:

The University of Puerto Rico promotes the highest standards of academic and scientific integrity.

Article 6.2 of the UPR Students General Bylaws (Board of Trustees Certification 13, 2009-2010) states that academic dishonesty includes, but is not limited to: fraudulent actions; obtaining grades or academic degrees by false or fraudulent simulations; copying the whole or part of the academic work of another person; plagiarizing totally or partially the work of another person; copying all or part of another person's answer to the questions of an oral or written exam by taking or getting someone else to take the exam on his/her behalf; as well as enabling and facilitating another person to perform the aforementioned behavior. Any of these behaviors will be subject to disciplinary action in accordance with the disciplinary procedure laid down in the UPR Students General Bylaws.—.

Policy Against Discrimination Based on Sex, Sexual Orientation, and Gender Identity:

The University of Puerto Rico prohibits discrimination based on sex, sexual orientation, and gender identity in any of its forms, including that of sexual harassment. According to the Institutional Policy Against Sexual Harassment at the University of Puerto Rico, Certification Num. 130, 2014-2015 from the Board of Governors, any student subjected to acts constituting sexual harassment, may turn to the Office of the Student Ombudsperson, the Office of the Dean of Students, and/or the Coordinator of the Office of Compliance with Title IX for an orientation and/or formal complaint.

Sexual Harassment: Certification 130-2014-2015 states:

Sexual harassment in the workplace and in the study environment is an illegal and discriminatory act and is against the best interests of the University of Puerto Rico. All persons who understand they have been subject to acts of sexual harassment at the University of Puerto Rico may file a complaint and request that the institution investigate, where necessary, and assume the corresponding action by the university authorities. If the complainant is a student, he or she must refer his or her complaint to the Office of the Student Ombudsperson or that of the Dean of Students.

Certification 06-43 of the Academic Senate states, "The academic guidelines for offering online courses," defines:

Traditional face-to-face courses are those that have less than 25% of the course's regular contact hours via the Internet. Therefore, a three-credit course will be considered "face to face" if, of the 45 hours of regular contact, 11 or less are taught via the Internet. According to certification 16-43 of the Academic Senate, a course may include up to 25% of its total contact hours via the Internet. The objective of this is so that all professors have this alternative in the case of any unscheduled eventuality.

Grading System:

Quantifiable (letters) Not Quantifiable

Standard Curve

100-90 A; 89-80 B; 79-70 C; 69-60 D; 59-0 F

Bibliography:

Püssa, T. (2008) Principles of Food Toxicology. CRC Press, Boca Ratón, FL.

Omaye, S.T. (2004) Food and Nutritional Toxicology. CRC Press, Boca Ratón, FL.

Deshpande, S.S. (2002) Handbook of Food Toxicology. Marcel Dekker, Inc, New York, NY.
Helferich, W, Winter, K. (2000) Food Toxicology. CRC Press, Boca Ratón, FL.
Altug, T. (2002) Introduction to Toxicology and Food. CRC Press, Boca Ratón, FL.
Takayuki, s., Leonard, D. and Taylor, S. (1993). Introduction to Food Toxicology. Academic Press, Washington, D.C.
Ayres, J.C., Kirschman, J.C. (1981) Impact of Toxicology on Food Processing. AVI Publishing Company, Westport, Connecticut.
National Academy of Sciences (1973) Toxicants Occurring Naturally in Foods, Washington, DC.

Includes attachments:

Yes

No