



University of Puerto Rico  
Mayagüez Campus  
College of Agricultural Sciences  
Department of Agricultural and Biosystems Engineering  
Agricultural and Environmental Systems



## COURSE SYLLABUS

### GENERAL INFORMATION:

COURSE TITLE:	<b>Food Safety</b>
COURSE NUMBERING:	SAGA 5126
CONTACT HOURS /CREDITS:	45 hours / Three credits
PREREQUISITES, COREQUISITES AND OTHER REQUIREMENTS:	N/A

### COURSE DESCRIPTION:

ENGLISH: Practices and methods to guarantee food safety and product integrity. Topics such as laws and regulations, good manufacturing practices (GMP), hazard analysis and critical control points (HACCP), and food labeling will be discussed. This course is offered in person.

SPANISH: Prácticas y métodos para garantizar la integridad del producto y la inocuidad de los alimentos. Se discuten temas como leyes y regulaciones, buenas prácticas de manufactura (GMP's), análisis de riesgos y puntos de control crítico, y etiquetado de alimentos. Curso presencial.

### LEARNING OBJECTIVES:

At the end of the course students will be able to:

- Make informed decisions on issues related to product integrity and food safety, based on applicable laws and regulations.
- Develop standard operating procedures for the implementation of good manufacturing practices.
- Create food safety plans using the HACCP methodology and necessary preventive controls.

### SUGGESTED TEXTBOOK:

Code of Federal Regulations, Title 21, Part 117.

<https://www.ecfr.gov/current/title-21/chapter-I/subchapter-B/part-117?toc=1>

**COURSE OUTLINE AND TIME DISTRIBUTION:**

<b>TOPIC</b>	<b>TIME DISTRIBUTION (HOURS)</b>
I. Introduction to the Course	3
II. cGMPs: Personnel Practices	3
III. cGMPs: Plant and Premises, Equipment and Utensils, Cleaning and Sanitation	3
IV. cGMPs: Processing, Storage, and Other Controls	3
V. Exam #1	2
VI. Standard Operating Procedures (SOPs)	3
VII. Allergen Control	3
VIII. Physical, Chemical and Biological Hazards	3
IX. Traceability and Product Recall Programs	3
X. Exam #2	2
XI. HACCP: Preliminary Steps	3
XII. HACCP: The Seven Principles	3
XIII. Food Safety Plan with Preventive Controls	3
XIV. Exam #3	2
XV. Labeling, Agricultural Product Safety and Intentional Adulteration	4
XVI. Final Exam	2
<b>TOTAL HOURS</b>	<b>45 hours</b>

**INSTRUCTIONAL STRATEGIES:**

Some of the following may be used:

<input checked="" type="checkbox"/> Lecture	<input checked="" type="checkbox"/> Project Based Learning
<input checked="" type="checkbox"/> Discussion	<input type="checkbox"/> Seminars or Workshops
<input checked="" type="checkbox"/> Cooperative Learning	<input type="checkbox"/> Problem Based Learning (PBL)
<input type="checkbox"/> Case Studies	<input type="checkbox"/> Flipped Classroom
<input type="checkbox"/> Lectures with Guest Speakers	

**MINIMUM OR REQUIRED RESOURCES AVAILABLE:**

<b>RESOURCE</b>	<b>FACE-TO-FACE</b>
Classroom or laboratory	Institution
Account in the institutional learning management platform (e.g. Moodle or Blackboard)	Institution
Institutional email account	Institution

Computer with high-speed internet access or mobile device with data service	Student
Programs or applications: word processor, spreadsheets, presentation editor	Student
Webcam or mobile with camera and microphone	Student
Integrated or external speakers	Student
Whiteboard	Institution
Digital projector	Institution

Other: N/A

<b>ASSESSMENT TECHNIQUES: (Examples of evaluation techniques)</b>
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<b>Assessment Technique</b>	<b>Relative Weight</b>
<input checked="" type="checkbox"/> Exams (partial)	40% (3 of equal weight)
<input checked="" type="checkbox"/> Assignments	20%
<input checked="" type="checkbox"/> Short quizzes	20%
<input checked="" type="checkbox"/> Projects (individual)	5%
<input checked="" type="checkbox"/> Final exam	15%
<b>Total:</b>	<b>100%</b>

Standard scale: 90 to 100 A; 80 < 90 B; 66 < 80 C; < 66 F

<b>REASONABLE MODIFICATION (REASONABLE ACCOMMODATION):</b>
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The University of Puerto Rico (UPR) acknowledges the right of students with disabilities to an inclusive, equitable, and comparable post-secondary education. In accordance with its policy toward students with disabilities, based on federal and state legislation, every qualified student with disabilities is entitled to equal participation in those services, programs, and activities that are physically, mentally or sensorially natured and have thus substantially affected one or more major life activities, such as their area of post-secondary studies. They have the right to receive reasonable accommodation or modifications. If you require accommodation or reasonable modification in the course, you must inform the professor without the need to disclose your condition or diagnosis. Simultaneously, you should promptly request the Office of Services for Students with Disabilities (OSEI) of the unit or campus for your need for modification or reasonable accommodation.

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

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you must contact each professor for course registered. For additional information contact OSEIRUM at the Office of the Dean of Students, DE 12, via telephone 787-832-4040 extensions 6734 or 6735, email: [oseirum@uprm.edu](mailto:oseirum@uprm.edu), at the virtual office: <https://meet.google.com/yvd-nrqo-mor>, or join by telephone: (US)+1 475-558-0169 PIN: 814 895 818#.

### **ACADEMIC HONESTY:**

The University of Puerto Rico promotes the highest standards of academic and scientific integrity. Section 6.2 of the UPR General Student Regulations (Certification No.13, 2009-2010, Board of Trustees) provides that academic dishonesty includes, but is not limited to: “fraudulent actions, obtaining grades or academic degrees by false or fraudulent simulations, copying all or part of another’s academic work, copying all or part of another’s answer to questions on an examination, taking or having another take any oral or written test or examination on behalf of another, and aiding or facilitating another person to engaging such conduct.” Any of these actions will be subject to disciplinary sanctions in accordance with the disciplinary procedure provided in the UPR General Student Regulations in force. To ensure the integrity and security of user data, all hybrid, distance-learning and online courses shall be offered through the institutional learning management platform or through tools required by the course, which uses secure connection and authentication protocols. The system authenticates the user identity using the username and password assigned through the student institutional account. The user is responsible for keeping secure, protecting, and not sharing their password with others.

### **POLICY AND PROCEDURES TO MANAGE SEX AND GENDER-BASED DISCRIMINATION AT THE UNIVERSITY OF PUERTO RICO:**

The Policy and procedures to Manage Sex and Gender-Based Discrimination at the University of Puerto Rico, Certification No. 107 (2021-2022) of the Governing Board, certifies that the University of Puerto Rico, as an institution of higher learning and a workplace, safeguards the rights and offers a safe space for those who interact therein, whether they be students, employees, contractors, or visitors. It seeks to promote an environment that respects diversity and the rights of the university community. This policy provides a protocol for handling situations related to the following prohibited conduct in the workplace or in the academic setting: discrimination based on sex, gender, pregnancy, sexual harassment, sexual violence, domestic violence, dating, violence, and stalking.

### **CONTINGENCY PLAN IN CASE OF AN EMERGENCY OR INTERRUPTION OF CLASSES**

In the event of an emergency or interruption of classes, the professor will contact the students through the institutional email or other available means to coordinate the continuity of the course.

The contingency plan must preserve the modality in which the course was created and programmed in the course offering.

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Certification 23-29 of the Academic Senate establishes that a face-to-face course may have up to 25% of the hours at a distance and if necessary, this option may be used.

## **DIVERSITY, EQUITY, AND INCLUSION**

The University of Puerto Rico is committed to establishing an environment that values diversity, promotes equity and equality, and aspires to the full inclusion of its entire university community. Courses will be offered in an inclusive and equitable environment, ensuring the participation of students with diverse backgrounds, experiences, and abilities. Thus, the University of Puerto Rico reiterates its dedication to upholding the principles of diversity, equity, and inclusion in its academic programs.

## **GRADING SYSTEM**

Quantifiable (letters, A, B, C, D, F)       Not Quantifiable (Pass, Fail)

## **BIBLIOGRAPHY:**

- Cramer, M.M. 2022. Food Plant Sanitation. Third edition. CRC Press. ISBN-13: 978-0367266417.
- Han, S. 2023. The Essential Food Safety Handbook: A User-Friendly Guide for Beginners in the Food Industry. ISBN-13: 979-8378039432.
- Hernández, C.H. 2018. GMP Good Manufacturing Practices: Management Systems. ASIN: B07M6C9SBF.
- Kunjan, M. 2021. Hand Book on Food Safety for All. ASIN: B09CV7GJHJ
- Navarro Bordonaba, J.L. 2021. Guía APPCC / HACCP y HARPC. ASIN: B0BW2H5LD3.

### **Electronic references:**

- 21 CFR 120 Hazard Analysis and Critical Control Point (HACCP) Systems. <https://www.ecfr.gov/current/title-21/chapter-I/subchapter-B/part-120>
- 21CFR 112 Standards for the Growing, Harvesting, Packing, and Holding of Produce for Human Consumption. <https://www.ecfr.gov/current/title-21/chapter-I/subchapter-B/part-112>
- 21 CFR 121 Mitigation Strategies to Protect Food Against Intentional Adulteration. <https://www.ecfr.gov/current/title-21/chapter-I/subchapter-B/part-121>