Cover Sheet: Request 15355

FOS 4XXX – Principles of Food and Safety Systems

Info	
Process	Course New Ugrad/Pro
Status	Pending at PV - University Curriculum Committee (UCC)
Submitter	Soohyoun Ahn sahn82@ufl.edu
Created	10/20/2020 1:55:17 PM
Updated	12/2/2020 4:06:33 PM
Description of	This course has been taught as FOS4936. Instructors are seeking a permanent course number.
request	

Actions

Step	Status	Group	User	Comment	Updated			
Department	Approved	CALS - Food Science and Human Nutrition 60150000	Susan Percival		10/20/2020			
CALS CC Checklist-FOS4xxx.pdf								
College	Approved	CALS - College of Agricultural and Life Sciences	Joel H Brendemuhl	Edits requested by the CALS CC have been addressed.	12/2/2020			
FOS 4936 sylla	abus 2020.do	CX			11/23/2020			
FOS 6936 sylla	abus 2020.do	CX			12/2/2020			
Addendum - co	ourse assess	ment detail.docx			11/24/2020			
University	Pending	PV - University			12/2/2020			
Curriculum		Curriculum						
Committee		Committee (UCC)						
No document o	hanges			•				
Statewide								
Course								
Numbering								
System								
No document o	hanges			1	1			
Office of the								
Registrar								
No document c	hanges							
Student								
Academic								
Support								
System								
No document o	hanges							
Catalog								
No document o	hanges							
College								
Notified								
No document changes								

Course|New for request 15355

Info

Request: FOS 4XXX – Principles of Food and Safety Systems Description of request: This course has been taught as FOS4936. Instructors are seeking a permanent course number. Submitter: Soohyoun Ahn sahn82@ufl.edu Created: 11/23/2020 3:52:29 PM Form version: 2

Responses

Recommended Prefix

Enter the three letter code indicating placement of course within the discipline (e.g., POS, ATR, ENC). Note that for new course proposals, the State Common Numbering System (SCNS) may assign a different prefix.

Response: FOS

Course Level

Select the one digit code preceding the course number that indicates the course level at which the course is taught (e.g., 1=freshman, 2=sophomore, etc.).

Response:

4

Number

Enter the three digit code indicating the specific content of the course based on the SCNS taxonomy and course equivalency profiles. For new course requests, this may be XXX until SCNS assigns an appropriate number.

Response: XXX

Category of Instruction

Indicate whether the course is introductory, intermediate or advanced. Introductory courses are those that require no prerequisites and are general in nature. Intermediate courses require some prior preparation in a related area. Advanced courses require specific competencies or knowledge relevant to the topic prior to enrollment.

Response: Joint (Ugrad/Grad)

- 1000 and 2000 level = Introductory undergraduate
- 3000 level = Intermediate undergraduate
- 4000 level = Advanced undergraduate
- 5000 level = Introductory graduate
- 6000 level = Intermediate graduate
- 7000 level = Advanced graduate

4000/5000 and 4000/6000 levels = Joint undergraduate/graduate (these must be approved by the UCC and the Graduate Council)

Lab Code

Enter the lab code to indicate whether the course is lecture only (None), lab only (L), or a combined lecture and lab (C).

Response: None

Course Title Enter the title of the course as it should appear in the Academic Catalog.

Response: Principles of Food Safety Systems

Transcript Title

Enter the title that will appear in the transcript and the schedule of courses. Note that this must be limited to 21 characters (including spaces and punctuation).

Response: Prin Food Safety Sys

Degree Type

Select the type of degree program for which this course is intended.

Response: Baccalaureate

Delivery Method(s)

Indicate all platforms through which the course is currently planned to be delivered.

Response: On-Campus

Co-Listing

Will this course be jointly taught to undergraduate, graduate, and/or professional students?

Response: Yes

Co-Listing Explanation

Please detail how coursework differs for undergraduate, graduate, and/or professional students. Additionally, please upload a copy of both the undergraduate and graduate syllabus to the request in .pdf format.

Response:

This course is for undergraduate and graduate students who are interested in pursuing careers in food safety management and quality control. Both undergraduate and graduate students will have 3 exams about the content presented in the lectures, which accounts for 60% of their final grade. Both undergrads and grads will be required to develop a food safety plan that address process

control for a given food product and give a presentation and write a report (40% for undergraduates, 20% for graduate students). In addition, graduate students must work on a food safety plan addressing sanitation preventive controls (10% of grade) and food allergen preventive controls (10% of grade), which will be graded on a combination of class presentation and report. This project (40% of the final grade) will be an iterative process that will result in a comprehensive overview of the Food Safety Plan development and maintenance under the Food Safety Modernization Act of 2011, which is a major learning objective for this course.

Effective Term

Select the requested term that the course will first be offered. Selecting "Earliest" will allow the course to be active in the earliest term after SCNS approval. If a specific term and year are selected, this should reflect the department's best projection. Courses cannot be implemented retroactively, and therefore the actual effective term cannot be prior to SCNS approval, which must be obtained prior to the first day of classes for the effective term. SCNS approval typically requires 2 to 6 weeks after approval of the course at UF.

Response: Fall

Effective Year

Select the requested year that the course will first be offered. See preceding item for further information.

Response: Earliest Available

Rotating Topic?

Select "Yes" if the course can have rotating (varying) topics. These course titles can vary by topic in the Schedule of Courses.

Response: No

Repeatable Credit?

Select "Yes" if the course may be repeated for credit. If the course will also have rotating topics, be sure to indicate this in the question above.

Response: No

Amount of Credit

Select the number of credits awarded to the student upon successful completion, or select "Variable" if the course will be offered with variable credit and then indicate the minimum and maximum credits per section. Note that credit hours are regulated by Rule 6A-10.033, FAC. If you select "Variable" for the amount of credit, additional fields will appear in which to indicate the minimum and maximum number of total credits.

Response:

2

S/U Only?

Select "Yes" if all students should be graded as S/U in the course. Note that each course must be entered into the UF curriculum inventory as either letter-graded or S/U. A course may not have both options. However, letter-graded courses allow students to take the course S/U with instructor permission.

Response: No

Contact Type

Select the best option to describe course contact type. This selection determines whether base hours or headcount hours will be used to determine the total contact hours per credit hour. Note that the headcount hour options are for courses that involve contact between the student and the professor on an individual basis.

Response: Regularly Scheduled

• Regularly Scheduled [base hr]

- Thesis/Dissertation Supervision [1.0 headcount hr]
- Directed Individual Studies [0.5 headcount hr]
- Supervision of Student Interns [0.8 headcount hr]
- Supervision of Teaching/Research [0.5 headcount hr]
- Supervision of Cooperative Education [0.8 headcount hr]

Contact the Office of Institutional Planning and Research (352-392-0456) with questions regarding contact type.

Weekly Contact Hours

Indicate the number of hours instructors will have contact with students each week on average throughout the duration of the course.

Response: 2

Course Description

Provide a brief narrative description of the course content. This description will be published in the Academic Catalog and is limited to 50 words or fewer. See course description guidelines.

Response:

This course is designed to cover 1) current issues in food supply chain including security and safety in domestic and international food industry, 2) various food safety control systems, 3) principles of HACCP and FSMA Preventive controls. The course also provides hands-on practice in developing a food safety plan.

Prerequisites

Indicate all requirements that must be satisfied prior to enrollment in the course. Prerequisites will be automatically checked for each student attempting to register for the course. The prerequisite will be published in the Academic Catalog and must be formulated so that it can be enforced in the registration system. Please note that upper division courses (i.e., intermediate or advanced level of instruction) must have proper prerequisites to target the appropriate audience for the course.

Response:

FOS3042

Completing Prerequisites on UCC forms:

• Use "&" and "or" to conjoin multiple requirements; do not used commas, semicolons, etc.

• Use parentheses to specify groupings in multiple requirements.

• Specifying a course prerequisite (without specifying a grade) assumes the required passing grade is D-. In order to specify a different grade, include the grade in parentheses immediately after the course number. For example, "MAC 2311(B)" indicates that students are required to obtain a grade of B in Calculus I. MAC2311 by itself would only require a grade of D-.

• Specify all majors or minors included (if all majors in a college are acceptable the college code is sufficient).

• "Permission of department" is always an option so it should not be included in any prerequisite or co-requisite.

Example: A grade of C in HSC 3502, passing grades in HSC 3057 or HSC 4558, and major/minor in PHHP should be written as follows:

HSC 3502(C) & (HSC 3057 or HSC 4558) & (HP college or (HS or CMS or DSC or HP or RS minor))

Co-requisites

Indicate all requirements that must be taken concurrently with the course. Co-requisites are not checked by the registration system.

Response: None

Rationale and Placement in Curriculum

Explain the rationale for offering the course and its place in the curriculum.

Response:

Food safety systems have become one of the most critical areas in Food Science. This course was specifically designed for students who are interested in careers in food quality control and food safety. Understanding key concepts to develop and manage food safety systems is highly desirable for food safety professionals, and this skill will keep students competitive in their careers in food safety and quality. This course provides an overview of food safety hazards and control measures, and develops skills in critical thinking of applying food safety principles in various real-life examples that are found in food processing industry.

Course Objectives

Describe the core knowledge and skills that student should derive from the course. The objectives should be both observable and measurable.

Response:

After completing this course, students should be able to:

- 1. Recognize the importance of food safety to protect public health.
- 2. Identify the types of hazards, and list the factors promoting those hazards.
- 3. Describe the importance of food safety in domestic and international food trade.
- 4. List and describe 7 principles of the HACCP system as a food protection tool.

5. Discuss the importance of risk analysis in food safety and how risk analysis can be done in food industry.

6. Identify hazards and develop process preventive controls for FSMA Food Safety Plan with a given food product example.

Course Textbook(s) and/or Other Assigned Reading

Enter the title, author(s) and publication date of textbooks and/or readings that will be assigned. & nbsp;Please provide specific examples to evaluate the course.

Response:

There is no required textbook for this course. However, following books are recommended as good resources for this course:

- FSMA and Food Safety Systems (Barach), Wiley
- HACCP: A Practical Approach, 3rd Ed. (Moltimore and Wallace), Springer
- Food Safety Management (King), Springer

These books can be accessed through library course reserves.

Supplemental reading materials will be posted on Canvas through each module page. These materials include, but are not limited to 1) articles from recent literature; 2) regulations and/or guidance from government agencies (e.g. USDA FSIS and FDA); and 3) publications from food safety organizations (e.g. GFSI, FSSC).

Sample of these additional reading materials are listed below:

• "Quality Control: a model program for the food industry" 2010. WC Hurst, PT Tybor, AE Reynolds, and GA Schuler. University of Georgia, Cooperative Extension.

(https://athenaeum.libs.uga.edu/bitstream/handle/10724/12251/B997.pdf)

"Writing Sanitation Standard Operating Procedures (SSOPs)" 2018. KE Kaylegian, Penn State Extension.(https://extension.psu.edu/writing-sanitation-standard-operating-procedures-ssops)
 "A Historical Look at Food Safety" 2020. IFT Brain Food Blog (https://www.ift.org/news-and-

publications/blog/2019/september/a-historical-look-at-food-safety)

• "Hazard Analysis and Risk-based Preventive Controls for Human Food: Draft Guidance for Industry" Chapter 1. The Food Safety Plan. 2018. FDA

(https://www.fda.gov/media/99547/download)

• "FSMA Final Rule on Produce Safety" 2020 FDA. (https://www.fda.gov/food/food-safetymodernization-act-fsma/fsma-final-rule-produce-safety)

• "Auditing Food Safety" 2018. IFT. (https://www.ift.org/news-and-publications/food-technology-magazine/issues/2018/april/columns/food-safety-and-quality-auditing-food-safety)

Weekly Schedule of Topics

Provide a projected weekly schedule of topics. This should have sufficient detail to evaluate how the course would meet current curricular needs and the extent to which it overlaps with existing courses at UF.

Response:

Week/ Module (Topic)

Week 1: Course Introduction; Food Safety Systems Overview

Week 2: Quality Control

Week 3: Prerequisite Programs (GMPs and SSOPs)

Week 4: Food Safety Regulations

Week 5: Introduction to HACCP

Week 6: HACCP Principles

Week 7: FSMA and Food Safety Plan Overview; Hazard Analysis

Week 8: Process Preventive Controls; Allergen Preventive Controls; Sanitation Preventive Controls

Week 9: Supply Chain Preventive Controls & Verification; Food Safety Plan Review

Week 10: Recall Plan

Week 11: FSMA Produce Safety Rule

Week 12/13: Auditing and Inspection; GFSI and other food safety systems

Week 14/15: Final Project presentations

Links and Policies

Consult the syllabus policy page for a list of required and recommended links to add to the syllabus. Please list the links and any additional policies that will be added to the course syllabus. Please see: syllabus.ufl.edu for more information

Response: http://syllabus.ufl.edu/

Grading Scheme

List the types of assessments, assignments and other activities that will be used to determine the course grade, and the percentage contribution from each. This list should have sufficient detail to evaluate the course rigor and grade integrity. Include details about the grading rubric and percentage breakdowns for determining grades.

Response: In-class exams (3)* 60% (20% each) Final Group Project (in lieu of final exam) 40% Total 100% *Each In-class exam will cover approximately 1/3 of the course materials and be equally weighted.

Grading Scale: A= 89.5-100.0 B+= 86.5-89.4 B= 82.5-86.4 B=79.5-82.4 C+= 76.5-79.4 C= 72.5-76.4 C= 69.5-72.4 D+=66.5-69.4 D=62.5-66.4 D=59.5-62.4 E= <59.5

Final Group Project Details:

Students will be assigned to work in a group of 3-4 (depending on the final enrollment number). Each group will be given a specific food product scenario, and work together to develop a HACCP plan or Food Safety Plan under the FSMA Preventive Controls for Human Food Rule (based on your product). This will be an iterative process that will result in a comprehensive overview of the HACCP/Food Safety Plan development and maintenance, which is a major learning objective for this course.

Each group is encouraged to organize an online meeting or use discussion section on Canvas. If you need any assistance in organizing an online meeting, ask for help to instructors.

Grading rubric for Final Group Project:

Topic (Possible Points)

- Preliminary steps Include ingredients, product description, and expected consumer (5)
- 2. Flow chart Include all process inputs (10)
- 3. Hazards analysis for product/process Use the provided form (15)
- 4. HACCP/PC plan Use the provided form (30) Process PC only
- 5. HACCP Presentation (20)
- 6. Report organization and quality- Include overall plan summary (15)
- 7. Participation graded individually (Use the provided form) (5)

Instructor(s)

Enter the name of the planned instructor or instructors, or "to be determined" if instructors are not yet identified.

Response: Soohyoun Ahn; Renee Goodrich

Addendum:

Assessment/Grading Difference between FOS4xxx/FOS6xxx

Both undergraduate and graduate students will have 3 in-class exams that cover the lecture contents, which accounts for 60% of their final grade. The difference in assessment between undergraduate and graduate students comes from their final project. While undergraduate students need to complete a single report, graduate students need to submit 2 additional reports. Details are shown below:

	Project Requirement	UG	GR
I.	Preliminary steps / Flow Diagram/ Hazard Analysis / Process PC/ (Report + Presentation)	Yes (40% of final grade)	Yes (20% of final grade)
II.	Food Allergen PC (Report + Presentation)	No	Yes (10% of final grade)
.	Sanitation PC (Report + Presentation)	No	Yes (10% of final grade)

As shown above, the proposed course have 20% difference in how the final grade is assessed, which follows the UCC guideline of minimum 15% difference in assessment between UG and GR in co-listed courses.

CALS Curriculum Committee Submission Checklist

NOTE: This checklist must be included with all course and certificate submissions.

The checklist below is intended to facilitate course and certificate submissions to the University of Florida Academic Approval Tracking System (https://approval.ufl.edu/). The checklist consists of the most common items that can cause a submission to require changes or be recycled. Contrary to information provided on the UF approval site, the CALS Curriculum Committee requires a syllabus be submitted with each new course or course modification request. Please note that submitters are encouraged to attend the CALS CC meeting at which their item is being reviewed. This allows the submitter to answer any potential questions that may arise that could cause the item to not be approved. Also, be aware that when completing the UCC form the section Description of Request is asking for a brief statement about what you are doing. This is **not** the place for a course description. A statement such as "Proposal of a new undergraduate course" is all that is needed. Please do not submit documents in pdf format. All documents should be submitted in Word to facilitate editing on our end if necessary.

CHECKLIST: PLEASE INITIAL OR MARK N/A FOR EACH STATEMENT TO INDICATE YOUR COMPLIANCE.

SA It is required when making a submission that you consult your department's representative to the CALS CC. A list of current members can be found on the committee site located at: https://cals.ufl.edu/faculty-staff/committees/.

SA You MUST comply with the CALS Syllabus Policy, including items 1 through 8 and all standard syllabus statements. This document can be viewed at the committee site(<u>https://cals.ufl.edu/faculty-staff/committees/</u>) by clicking on the Curriculum Committee – Information & Documents heading and scrolling down to Forms, Checklists, and Other documents. The other items included here are all very helpful when making a curriculum submission. Some will be mentioned in other checklist items below.

*SA***** Joint course submissions must include both graduate and undergraduate syllabuses and a separate statement outlining the substantial (more than one) differences in assignments between the two courses. These assignments must account for at least a 15% difference in graded material between the two levels. If this is a new course submission both courses must be submitted for approval simultaneously.

*SA***** The course description on the UCC form and in the syllabus must match. Any other information you wish to include needs to be under a different heading such as background or additional information.

SA The course learning objectives must be consistent with Bloom's taxonomy. Please see the following link at the CALS Curriculum site. (<u>https://cals.ufl.edu/content/PDF/Faculty_Staff/cals-course-objectives.pdf</u>). Do not use the words demonstrate or understand when listing learning objectives.

*SA***** The course schedule should be concise and include the appropriate number of weeks in the semester.

SA All graduate course submissions must include a reading list if a textbook is not required. The reading list should include at least some current readings (within the last 5 years). All readings do not need to be current.

N/A Outside consultations are required if there is a possibility of the proposed course covering material taught in another department or college on campus. There must be a consult form completed by the chair of the department from who you are seeking the consult. Instructors may provide additional consults. The form can be found at: <u>https://registrar.ufl.edu/pdf/uccconsult.pdf</u>.

SA Prerequisite courses are required for 3000 and 4000 level courses. This line of the approval form cannot be "none" or left blank. Junior or senior standing is an acceptable option. A phrase such as "a course in basic biology" is not acceptable.

SA Decimal points must be included in the grading scale if grade cut-offs are based on percentages. While this is not a university policy it is a CALS standard practice to avoid any confusion when final grades for the course are determined.

*SA***** The attendance and make-up policy in a syllabus cannot contradict the university's policy. Do not include any additional wording to this policy. A statement and link regarding this is included in the CALS Syllabus Statements. For the approval process the college suggests a less is more view when it comes to this policy.

SA The most recent version of the CALS Syllabus Statements boiler plate must be included in all syllabuses. This document is included in the CALS Syllabus Policy and can be copied and pasted to the syllabus. Do not use the boilerplate statements from an old syllabus as they are likely to be out of date.

Certificates

If proposing a new undergraduate or graduate level certificate that includes any courses outside of the submitters department a statement regarding any possible impact on those courses needs to be included. An email from the instructor is acceptable. Also, any courses required for the certificate must have permanent prefixes and course numbers. The submission must include intended catalog copy. (Contact Dr. Joel Brendemuhl (brendj@ufl.edu) for further instruction)

FOS 4XXX Food Safety Systems

Course Hours & Location:

TR 5th Period (11:45 am to 12:35 pm) Location: TBA

Instructors:

Dr. Soohyoun (Soo) Ahn (course organizer) Food Science and Human Nutrition Room 104A, Bldg. 120 E-mail: <u>sahn82@ufl.edu</u> (please, allow 24-48 hrs for a reply) Phone: 352-294-3710 Office hours: M/T/R 9:00 to 10:30 am, all other times – by appointment only

Dr. Renee Goodrich-Schneider Food Science and Human Nutrition Room 329, FSHN Bldg. E-mail: <u>goodrich@ufl.edu</u> (please, allow 24-48 hrs for a reply) Phone: 352-294-3726 Office hours: W/R 1:00 to 3:00 pm, all other times – by appointment only.

Course Description:

This course covers 1) current issues in food supply chain including security and safety in domestic and international food industry, 2) various food safety control systems, 3) principles of HACCP and FSMA Preventive controls. The course also provides hands-on practice in developing a food safety plan.

Prerequiste: FOS 3042 or with department permission

Course Objectives and Learning Goals:

After completing this course, students should be able to:

- 1. Recognize the importance of food safety to protect public health.
- 2. Identify the types of hazards, and list the factors promoting those hazards.
- 3. Describe the importance of food safety in domestic and international food trade.
- 4. List and describe 7 principles of the HACCP system as a food protection tool.
- 5. Discuss the importance of risk analysis in food safety and how risk analysis can be done in food industry.
- 6. Identify hazards and develop process preventive controls for FSMA Food Safety Plan with a given food product example.

Textbook and Additional Reading Materials:

There is no required textbook for this course. However, following books are recommended as good resources for this course:

- FSMA and Food Safety Systems (Barach), Wiley
- HACCP: A Practical Approach, 3rd Ed. (Moltimore and Wallace), Springer
- Food Safety Management (King), Springer

These books can be accessed through library course reserves.

Supplemental reading materials will be posted on Canvas through each module page.

These materials include, but are not limited to 1) articles from recent literature; 2) regulations and/or guidance from government agencies (e.g. USDA FSIS and FDA); and 3) publications from food safety organizations (e.g. GFSI, FSSC).

Sample of these additional reading materials are listed below:

- "Quality Control: a model program for the food industry" 2010. WC Hurst, PT Tybor, AE Reynolds, and GA Schuler. University of Georgia, Cooperative Extension. (https://athenaeum.libs.uga.edu/bitstream/handle/10724/12251/B997.pdf)
- "Writing Sanitation Standard Operating Procedures (SSOPs)" 2018. KE Kaylegian, Penn State Extension.(<u>https://extension.psu.edu/writing-sanitation-standard-operating-procedures-ssops</u>)
- "A Historical Look at Food Safety" 2020. IFT Brain Food Blog (<u>https://www.ift.org/news-and-publications/blog/2019/september/a-historical-look-at-food-safety</u>)
- "Hazard Analysis and Risk-based Preventive Controls for Human Food: Draft Guidance for Industry" Chapter 1. The Food Safety Plan. 2018. FDA (https://www.fda.gov/media/99547/download)
- "FSMA Final Rule on Produce Safety" 2020 FDA. (<u>https://www.fda.gov/food/food-safety-modernization-act-fsma/fsma-final-rule-produce-safety</u>)
- "Auditing Food Safety" 2018. IFT. (<u>https://www.ift.org/news-and-publications/food-technology-magazine/issues/2018/april/columns/food-safety-and-quality-auditing-food-safety</u>)

Course Format:

Students will acquire knowledge of the current food safety issues and various systems to control these issues through the lectures, class discussions, reading, and assignments.

Fall 2020 only*: In Fall 2020, the lectures will be delivered 100% online due to the current pandemic. This will be a synchronous online course, in which the lectures are delivered through live online lectures on its class time. All lectures will be delivered through zoom meetings. If there is any issue during the lecture time (e.g. internet outage), lecture recordings will be provided as an alternative.

*COVID Response Statements (Fall 2020 only):

Our class sessions may be audio-visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

Instruction Method:

The course is divided into 10 modules. Each week, students will get access to a new page that contains materials for the given week. Each page consists of a link to video lectures, presentation slides and handouts, recommended reading materials, and additional supplementary materials (videos and/or readings) relevant to the module.

The best way to study the course materials in each module is to begin with <u>the learning goals</u>. It will help you understand the important learning points for that specific module. Next, <u>attend class</u>. I recommend to print out the presentation handout prior to the lecture and <u>take notes during the lecture</u>. Presentation slides is a simple summary of what is being explained in the lecture. Much more details are explained in the lecture, and it will be helpful to take notes during the lecture.

Then, <u>read the assigned reading materials</u> or watch the supplementary videos that are posted (if any). These materials will provide details and support the lecture and expand your scope of learning. This course does not have a required textbook, but has recommended textbooks, which are electronically available through the course reserves.

Grading:

In-class exams (3)* Final Group Project (in lieu of final exam) - Process PC or HACCP Plan 60% (20% each)

40%

100%

Total

*Each In-class exam will cover approximately 1/3 of the course materials and be equally weighted.

Grading scale:

Grade	Α	B+	В	B-	C+	с	C-	D+	D	D-	E
Course	89.5-	86.5-	82.5-	79.5-	76.5-	72.5-	69.5-	66.5-	62.5-	59.5-	<59.5
Average %	100.0	89.4	86.4	82.4	79.4	76.4	72.4	69.4	66.4	62.4	

For information on current UF policies for assigning grade points, see <u>https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/</u>.

any assistance in organizing an online meeting, ask for help to instructors.

Group Project Details:

Students will be assigned to work in a group of 3-4 (depending on the final enrollment number). Each group will be given a specific food product scenario, and work together to develop a HACCP plan or Food Safety Plan under the FSMA Preventive Controls for Human Food Rule (based on your product). This will be an iterative process that will result in a comprehensive overview of the HACCP/Food Safety Plan development and maintenance, which is a major learning objective for this course. Each group is encouraged to organize an online meeting or use discussion section on Canvas. If you need

Policy regarding Make-up exam / Late work submission:

Each exam will be given as scheduled in course outline (see below). Students must take the exams on the day scheduled. Make-up exams will be allowed only for <u>the case of verifiable emergencies or</u> <u>legitimate reasons (illness, family emergency)</u>. In those excusable circumstances, students should notify the instructor <u>PRIOR TO</u> the scheduled exam and provide proper proof afterwards. Instructor will refuse to give a chance to take a make-up exam unless a student provides the proof that the absence was excusable. All make-up exams MUST be taken <u>within two days of the scheduled exam</u>, whenever <u>possible</u>.

Due date will be given in advance for the project. All work must be completed by the designated due dates. No late work will be accepted unless arrangement is made with the instructor beforehand.

Attendance Policy:

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: <u>https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/</u>.

Technology requirements:

Students must use their Gatorlink email account for this course. Students are recommended to check their email account daily for the duration of the course.

For issues with technical difficulties for E-learning in Canvas, please contact the UF Help Desk at:

- <u>learning-support@ufl.edu</u>
- (352) 392-4357 select option 2
- <u>lss.at.ufl.edu</u>

Communication Policy:

Students will have multiple channels to communicate with instructors:

- E-mails (either direct emailing or through Canvas mail)
- Canvas course page Q&A forum in Discussion
- After the lecture, instructors will be available to take any questions
- During the lecture, students can ask questions using "Chat" function in Zoom (Online lecture only)

All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions, and chats.

Academic Honesty:

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For information about the privacy policies of the tools used in this course, see the links below:

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 - o Privacy Policy
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Academic Resources

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- Library Support: various ways to receive assistance with respect to using the libraries or finding resources; https://cms.uflib.ufl.edu/ask
- Teaching Center: Broward Hall, 352-392-2010 or to make an appointment 352-392-6420. General study skills and tutoring; <u>https://teachingcenter.ufl.edu/</u>
- Writing Studio:2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers; <u>https://writing.ufl.edu/writing-studio/</u>
- Student Complaints On-Campus: sccr.dso.ufl.edu/policies/student-honor- code-studentconduct-code/On-Line Students Complaints: <u>https://distance.ufl.edu/student-complaint-process/</u>

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Tentative Course Outline:

Detailed course schedules are shown below. Please note that this represents current plans. As we go through the semester, these plans may need to change to enhance the class learning opportunity. Such changes, communicated clearly, are not unusual and should be expected.

- Module 1 Course Introduction and Overview (wk 1)
- Module 2 Quality Control (wk 2)
- Module 3 Pre-requisites (wk 3)
- Module 4 Food Safety Regulations (wk 4)
- Module 5 HACCP (wk 5-6)
- Module 6 FSMA and Preventive Controls (wk 7-10)
- Module 7– FSMA Produce Safety (wk 11)
- Module 8 Auditing and Inspection (wk 12)
- Module 9 Other systems (wk 12)
- Module 10- Project work and presentation (wk 14-15)

Week (Dates)	Module /Topic	Assignments & Exams
1 (Sep 1, 3)	 1.1. Course introduction (Ahn/Goodrich) 1.2 Food Safety Systems Overview (Ahn) 	
2 (Sep 8, 10)	• 2. Quality Control (Guest lecture by Dr. Sims)	
3 (Sep 15, 17)	• 3. Pre-requisites: GMPs and SSOPs (Ahn)	
4 (Sep 22, 24)	• 4. Food Safety Regulations (Ahn)	
5 (Sep 29, Oct 1)	Exam 15.1. Intro to HACCP (Goodrich)	Exam 1 (Sep 29)
6 (Oct 6, 8)	• 5.2. HACCP Principles (Goodrich)	
7 (Oct 13, 15)	 6.1. FSMA and Food Safety Plan overview (Ahn) 6.2. FSMA PC – Hazard analysis (Ahn) 	
8 (Oct 20, 22)	 6.3. FSMA PC – Process Control (Ahn) 6.4. FSMA PC – Allergen & Sanitation Control (Ahn) 	
9 (Oct 27, 29)	 6.5. FSMA PC – Supply Chain Control & Verification (Ahn) 6.6. FSMA PC – Food Safety Plan Review & Project Introduction (Ahn/Goodrich) 	Oct 29: Final Project Assignment posted (Due Dec 8)

10 (Nov 3, 5)	6.7. FSMA PC - Recall Plan (Ahn)Exam 2	Exam 2 (Nov 5)
11 (Nov 10, 12)	• 7. FSMA Produce Safety Rule (TBA)	
12 (Nov 17, 19)	 8. Auditing and Inspection (Goodrich) 9. GFSI and other food safety systems (Goodrich) 	
13 (Nov 24)	• Exam 3	Exam 3 (Nov 24)
14/15 (Dec 1, 3, 8)	• 10. Final Project Presentation	Final Project Presentation (Dec 1, 3, 8) Final Project Report (Due Dec 8)

FOS 6XXX Food Safety Systems

Course Hours & Location:

TR 5th Period (11:45 am to 12:35 pm) Location: TBA

Instructors:

Dr. Soohyoun (Soo) Ahn (course organizer) Food Science and Human Nutrition Room 104A, Bldg. 120 E-mail: <u>sahn82@ufl.edu</u> (please, allow 24-48 hrs for a reply) Phone: 352-294-3710 Office hours: M/T/R 9:00 to 10:30 am, all other times – by appointment only

Dr. Renee Goodrich-Schneider Food Science and Human Nutrition Room 329, FSHN Bldg. E-mail: <u>goodrich@ufl.edu</u> (please, allow 24-48 hrs for a reply) Phone: 352-294-3726 Office hours: W/R 1:00 to 3:00 pm, all other times – by appointment only.

Course Description:

This course is designed to cover 1) current issues in food supply chain including security and safety in domestic and international food industry, 2) various food safety control systems, 3) principles of HACCP and FSMA Preventive controls. The course also provides hands-on practice in developing a food safety plan.

Course Objectives and Learning Goals:

After completing this course, students should be able to:

- 1. Recognize the importance of food safety to protect public health.
- 2. Identify the types of hazards, and list the factors promoting those hazards.
- 3. Describe the importance of food safety in domestic and international food trade.
- 4. List and describe 7 principles of the HACCP system as a food protection tool.
- 5. Discuss the importance of risk analysis in food safety and how risk analysis can be done in food industry.

- 6. Identify hazards and develop process preventive controls for FSMA Food Safety Plan with a given food product example.
- 7. Develop a comprehensive food safety plan based on risk analysis and preventive controls under the FSMA Preventive Controls for Human Food Rule.
- 8. Describe the role of federal, state and local jurisdictions in regulating and monitoring food safety and security assurance.

Textbook and Additional Reading Materials:

There is no required textbook for this course. However, following books are recommended as good resources for this course:

- FSMA and Food Safety Systems (Barach), Wiley
- HACCP: A Practical Approach, 3rd Ed. (Moltimore and Wallace), Springer
- Food Safety Management (King), Springer

These books can be accessed through library course reserves.

Supplemental reading materials will be posted on Canvas through each module page.

These materials include, but are not limited to 1) articles from recent literature; 2) regulations and/or guidance from government agencies (e.g. USDA FSIS and FDA); and 3) publications from food safety organizations (e.g. GFSI, FSSC).

Sample of these additional reading materials are listed below:

- "Quality Control: a model program for the food industry" 2010. WC Hurst, PT Tybor, AE Reynolds, and GA Schuler. University of Georgia, Cooperative Extension. (<u>https://athenaeum.libs.uga.edu/bitstream/handle/10724/12251/B997.pdf</u>)
- "Microbiological Criteria: Principles for their establishment and application in food quality and safety" 2020. L Perez-Lavalle, E Carrasco, and A Valero. 2020. Italian Journal of Food Safety, 9:8543. (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7154603/)
- "Writing Sanitation Standard Operating Procedures (SSOPs)" 2018. KE Kaylegian, Penn State Extension.(<u>https://extension.psu.edu/writing-sanitation-standard-operating-procedures-ssops</u>)
- "Sanitation Standard Operating Procedures" 2019. USDA Food Safety and Inspection Service (FSIS). (<u>https://www.fsis.usda.gov/wps/wcm/connect/4cafe6fe-e1a3-4fcf-95ab-bd4846d0a968/13a_IM_SSOP.pdf?MOD=AJPERES</u>)
- "Understanding the Basics of Food Safety Regulations" 2018. D Detwiler, Northeastern University. (<u>https://www.northeastern.edu/graduate/blog/understanding-basics-food-safety-regulations/</u>)
- "A Historical Look at Food Safety" 2020. IFT Brain Food Blog (<u>https://www.ift.org/news-and-publications/blog/2019/september/a-historical-look-at-food-safety</u>)

- "Hazard Analysis and Risk-based Preventive Controls for Human Food: Draft Guidance for Industry" Chapter 1. The Food Safety Plan. 2018. FDA (<u>https://www.fda.gov/media/99547/download</u>)
- "FSMA Final Rule on Produce Safety" 2020 FDA. (<u>https://www.fda.gov/food/food-safety-modernization-act-fsma/fsma-final-rule-produce-safety</u>)
- "Auditing Food Safety" 2018. IFT. (<u>https://www.ift.org/news-and-publications/food-technology-magazine/issues/2018/april/columns/food-safety-and-quality-auditing-food-safety</u>)
- "The Role of Auditing, Food Safety, and Food Quality Standards in the Food Industry: A Review" 2017. KV Kotsanopoulos and IS Arvanitoyannis. Comprehensive Reviews in Food Science and Food Safety, 16(5): 760-775 (<u>https://onlinelibrary.wiley.com/doi/full/10.1111/1541-</u> <u>4337.12293</u>)

Course Format:

Students will acquire knowledge of the current food safety issues and various systems to control these issues through the lectures, class discussions, reading, and assignments.

Fall 2020 only*: In Fall 2020, the lectures will be delivered 100% online due to the current pandemic. This will be a synchronous online course, in which the lectures are delivered through live online lectures on its class time. All lectures will be delivered through zoom meetings. If there is any issue during the lecture time (e.g. internet outage), lecture recordings will be provided as an alternative.

*COVID Response Statements (Fall 2020 only):

Our class sessions may be audio-visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

Instruction Method:

The course is divided into 10 modules. Each week, students will get access to a new page that contains materials for the given week. Each page consists of a link to video lectures, presentation slides and handouts, recommended reading materials, and additional supplementary materials (videos and/or readings) relevant to the module.

The best way to study the course materials in each module is to begin with <u>the learning goals</u>. It will help you understand the important learning points for that specific module. Next, <u>attend class</u>. I recommend to print out the presentation handout prior to the lecture and <u>take notes during the lecture</u>. Presentation slides is a simple summary of what is being explained in the lecture. Much more details are explained in the lecture, and it will be helpful to take notes during the lecture.

Then, <u>read the assigned reading materials</u> or watch the supplementary videos that are posted (if any). These materials will provide details and support the lecture and expand your scope of learning. This course does not have a required textbook, but has recommended textbooks, which are electronically available through the course reserves.

Grading:

Total	100%
- Food allergen PC	10%
- Sanitation PC	10%
- Process PC	20%
Final Group Project (in lieu of final exam)	
In-class exams (3)*	60% (20% each)

*Each In-class exam will cover approximately 1/3 of the course materials and be equally weighted.

Grading scale:

Grade	Α	B+	В	B-	C+	с	C-	D+	D	D-	E
Course	89.5-	86.5-	82.5-	79.5-	76.5-	72.5-	69.5-	66.5-	62.5-	59.5-	<59.5
Average %	100.0	89.4	86.4	82.4	79.4	76.4	72.4	69.4	66.4	62.4	

For information on current UF policies for assigning grade points, see https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/.

Group Project Details:

Students will be assigned to work in a group of 2-3 (depending on the final enrollment number). Each group will be given a specific food product scenario, and work together to develop a HACCP plan or Food Safety Plan under the FSMA Preventive Controls for Human Food Rule (based on your product). This will be an iterative process that will result in a comprehensive overview of the HACCP/Food Safety Plan development and maintenance, which is a major learning objective for this course.

Each group is encouraged to organize an online meeting or use discussion section on Canvas. If you need any assistance in organizing an online meeting, ask for help to instructors.

Policy regarding Make-up exam / Late work submission:

Each exam will be given as scheduled in course outline (see below). Students must take the exams on the day scheduled. Make-up exams will be allowed only for <u>the case of verifiable emergencies or</u> <u>legitimate reasons (illness, family emergency)</u>. In those excusable circumstances, students should notify the instructor <u>PRIOR TO</u> the scheduled exam and provide proper proof afterwards. Instructor will refuse to give a chance to take a make-up exam unless a student provides the proof that the absence was excusable. All make-up exams MUST be taken <u>within two days of the scheduled exam</u>, whenever <u>possible</u>.

Due date will be given in advance for the project. All work must be completed by the designated due dates. No late work will be accepted unless arrangement is made with the instructor beforehand.

Attendance Policy:

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: <u>https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/</u>.

Technology requirements:

Students must use their Gatorlink email account for this course. Students are recommended to check their email account daily for the duration of the course.

For issues with technical difficulties for E-learning in Canvas, please contact the UF Help Desk at:

- learning-support@ufl.edu
- (352) 392-4357 select option 2
- <u>lss.at.ufl.edu</u>

Communication Policy:

Students will have multiple channels to communicate with instructors:

- E-mails (either direct emailing or through Canvas mail)
- Canvas course page Q&A forum in Discussion
- After the lecture, instructors will be available to take any questions
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Detailed outline and weekly course schedule is shown below:

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13 (Nov 24)	• Exam 3	Exam 3 (Nov 24)
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