

Cover Sheet: Request 14959

HOS 2xxx: Fighting Food Waste and Loss (Q2 Permanent)

Info

Process	Course New/Close/Modify Ugrad Gen Ed Quest Perm
Status	Pending at PV - University Curriculum Committee (UCC)
Submitter	Tie Liu tieliu@ufl.edu
Created	4/28/2020 4:03:40 PM
Updated	12/10/2020 12:24:07 PM
Description of request	I am seeking the permanent Quest designation for my course, Quest2 IDS2935/#23204, Fighting Food Waste and Loss.

Actions

Step	Status	Group	User	Comment	Updated
Quest Director	Commented	PV - Quest Director	Andrew Wolpert	Pending response to questions sent to the submitter	4/30/2020
No document changes					
Quest Director	Approved	PV - Quest Director	Andrew Wolpert		5/18/2020
Quest2-FFWL-Narrative Letter-TL2-HOS.doc					5/4/2020
Department	Approved	CALS - Horticultural Sciences 60230000	Joel H Brendemuhl	Approved per request of department (Dr. Jacqueline Burns).	6/3/2020
No document changes					
College	Approved	CALS - College of Agricultural and Life Sciences	Joel H Brendemuhl	CALS approves.	6/3/2020
No document changes					
Quest Curriculum Committee	Approved	PV - Quest Curriculum Committee	Andrew Wolpert		12/10/2020
IDS 2935FIGHTING FOOD WASTE AND LOSS--AW1-TL5-JK1.docx					12/3/2020
University Curriculum Committee	Pending	PV - University Curriculum Committee (UCC)			12/10/2020
No document changes					
General Education Committee					
No document changes					
Statewide Course Numbering System					
No document changes					
Office of the Registrar					
No document changes					
Student Academic Support System					
No document changes					
Catalog					

Step	Status	Group	User	Comment	Updated
No document changes					
College Notified					
No document changes					
Quest Director Notified					
No document changes					

Course|Gen_Ed|New-Close-Modify|Quest-Perm for request 14959

Info

Request: HOS 2xxx: Fighting Food Waste and Loss (Q2 Permanent)

Description of request: I am seeking the permanent Quest designation for my course, Quest2 IDS2935/#23204, Fighting Food Waste and Loss.

Submitter: Tie Liu tieliu@ufl.edu

Created: 1/12/2021 10:43:15 AM

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:
HOS

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.). Quest 1 courses may only select 1 & Quest 2 courses may only select 2.

Response:
2

Course 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:
2XXX

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. Quest courses may only select Introductory at this time.

Response:
Introductory

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. There is a 100 character limit for course titles. *

Response:
Fighting Food Waste and Loss

Transcript Title

Enter the title that will appear in the transcript and the schedule of courses. Note that this must be limited to 30 characters (including spaces and punctuation).

Response:
Fighting Food Waste and Loss

Degree Type

Select the type of degree program for which this course is intended. Quest courses may only select Baccalaureate.

Response:
Baccalaureate

Delivery Method(s)

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

Response:
On-Campus, Online

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:
2021

Rotating Topic

Quest courses may not be rotating topics at this time. Please select "No" to confirm this course will not be a rotating topics course.

Response:
No

Repeatable Credit

At this time Quest courses are not being offered as repeatable credit. Please select "No" to confirm this is not a repeatable credit course.

Response:
No

Amount of Credit

Quest courses may only be offered for 3 credit hours at this time, please confirm that this course is a 3 credit hour course.

Response:
3 credits

S/U Only?

UF Quest/General Education courses may not be offered as S/U. Please select no for S/U.

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]

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:
3

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 class is a biological science general education class designed for all students who are interested in learning and reflecting upon the major future challenges of food and agriculture. Students will learn about postharvest biology, environmental and food sciences, and communication technology in reducing food waste.

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. Courses level 3000 and above must have a prerequisite.

Response:
None

Completing Prerequisites on UCC forms:

- Use "&" and "or" to conjoin multiple requirements; do not use 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. If there are none please enter N/A.

Response:
None

Rationale and Placement in Curriculum

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

Response:

Why should we care about Food Waste? In the United States, Americans throw away as much as 40% of all food at an estimated cost of \$165 billion every year. Worldwide, one-third of the world's food — some 1.3 billion tons — is lost or wasted every year. The facts of food loss and waste and the resulting consequences affect us in many ways, ranging from important economic and social issues to lasting and detrimental environmental problems. We need to work on these issues to develop a sustainable environment for global food security, population growth, and human health. This class is a biological science general education class designed for all students who are interested in learning and reflecting upon the major future challenges of food and agriculture. Students will learn about postharvest biology, environmental and food sciences, and communication technology in reducing food waste. Through active learning activities, group discussion, and field trips, students will gain knowledge on the interactions and interdisciplinary approaches among horticultural science, animal science, agronomy, environmental biology, food science & human nutrition, and public health as well as develop critical skills in the analysis of food waste problem. We will help students identify the current issues in food waste and loss, evaluate the economic problems of food waste, develop critical thinking, and identify strategies to reducing food waste and loss. The class include guest lectures, TED talks, group discussion and students' oral presentation. Assignments will include group discussions, report writings on selected topics, and oral presentation.

Course Objectives

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

Response:

1. Explain the global issue of food loss and waste.
2. Analyze current food loss and waste issues and the relationships among food safety, nutrition and public health as well as the related environmental, social, and economic impacts.
3. Summarize and evaluate research-based articles for evidence of anthropogenic activities altering biodiversity and, subsequently, ecosystem services.

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. Please provide specific examples to evaluate the course.

Response:

- Postharvest handling, Florkowski, 2009. (Textbook, Postharvest Waste and Loss)
- Postharvest, an introduction to the physiology and handling of fruit and vegetable, Ron Wills and John Golding, 2016. (6th Edition, Textbook)
- Taking a Bite out of Food Waste: A Closer Look at What We're Leaving on the Table, Adrian Hertel, 2018. (Empower Stakeholders)
- Food Waste at Consumer Level: A Comprehensive Literature Review, Ludovica Principato, 2018. (Communication Technology in Food Waste and Loss)
- Sustainable Food Waste-To-Energy Systems, Thomas Trabold and Callie Babbitt, 2018. (Textbook, Sustainable energy)
- Postharvest Pathology, Don Prusky, 2010. (Textbook, Food Safety)
- Postharvest Extension and Capacity Building for the Developing World, Majeed Mohammed, Forwarded by Lisa Kitinoja. 2018. (International studies on Food Security)
- Characterization and Management of Food Loss and Waste in North America, White Paper by CEC (Commission for Environmental Cooperation), 2017. (Case studies on Food Waste)
- Food and Agriculture Organization of the United Nations report, FAO. 2011. (Food Safety)
- 100 Under \$100: Tools for Reducing Postharvest Losses, Betsy Teusch, 2019. (Textbook, Communication Technologies in Reducing Food Waste and Loss)

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	Topic Area	Weekly
SLO Description	Weekly Readings	
Food Waste and Loss		

1

Jan6-10 Mon	Food Waste and Loss: Why Should We Care? (Part I) (Overview of food loss and waste)	
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	Recognize the global challenge of postharvest loss reduction	Reducing Food Loss and Waste, 2019, WRI
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Page 3-15
(13 pages)

Wed	Food Waste and Loss: Why Should We Care? (Part I)	
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Fri Guidelines for preparing oral presentations.

2

Jan13-17

Mon Postharvest Procedures for the Maintenance of Food Quality (Vegetables and Fruits)
Understand postharvest physiology of fruit and vegetable Postharvest

Ron Wills: Chapt. 1

Page 1-15

(15 pages)

Wed Postharvest Procedures for the Maintenance of Food Quality
(Meat and Dairy)

Fri Guidelines for taking a time-lapse video of a vegetable or fruit.

Quiz 1

3

Mon Holiday

Postharvest

Ron Wills, 2007

Chapt. 2

Page 16-33

(16 pages)

Wed Jan22-24

Increasing Food Security by Optimizing Consumption (Part I)

Invited Speaker: Dr. Jeff Brecht, Professor,

Department of Horticultural Sciences Learn various postharvest technologies

Fri Increasing food security by optimizing consumption (Part II)

Quiz2

4

Jan 27-31

Mon Postharvest Handling to Reduce Food Waste and Loss (Part I)

Dr. Jeff Brecht Postharvest technology to reduce food waste and loss Postharvest

Ron Wills, 2007

Chapt. 3

Page 34-60

(25 pages)

Wed Postharvest Handling to Reduce Food Waste and Loss (Part I)

Dr. Jeff Brecht

Fri Guidelines for watching TED talks and taking Field Trips.

Quiz 3

5

Feb 3-7

Mon Postharvest Handling for Livestock Products

Identify the best practices to keep meat fresh Postharvest handling, Florkowski, 2009

Chapt. 4

Page 43-52

(10 pages)

Wed Case studies:

Grocery Meat and Food Terminal Rescue Programs-Moisson Montreal

Fri Food Waste and Loss Calculator study

Quiz 4

6

Feb10-14

Mon Impossible Burger: Future of Meat and Its Impact to Reduce Food Waste

Identify nutrition loss and alternative food for meat 100 Under \$100, Betsy Teusch.

Section 5

Page200-212

(12 pages)

Wed The Plant-based Alternatives to Meat
Group discussion on TED talk: Compost king: Paul Sellev (15 min)
<https://www.youtube.com/watch?v=6eXRfynD-M8>

Fri Student presentation.

Quiz 5

Sustainable Food Waste-to-Energy Systems

7

Feb17-21

Mon From Farm to Table

Invited Speaker: Dr. Xin Zhao, Associate Professor,
Horticultural Sciences Department Explore small scale postharvest handling technology (Part I)
100 Under \$100, Betsy Teusch.

Section1

Page15-60

(34 pages)

Wed Urban Farming and Future Agriculture
Group Discussion

Fri Student presentation on Reducing Food Waste.

Quiz 6

8

Feb24-28

Mon Feeding Food with Food (Food Waste Composting)

Invited Speaker: Dr. Xin Zhao Identify small scale postharvest handling
technology (Part II) Sustainable Food Waste-To-Energy Systems, Thomas Trabold and Callie
Babbitt, 2018.

Wed Sustainable Waste-to-energy System: Conventional Methods

Student presentation

Fri Mid-term Exam (20 min)

Mar2-6 Spring Break

9

Mar9-13

Mon Sustainable Waste-to-energy System: Alternative/Advance Technologies

Technologies in converting waste to energy systems Sustainable Food Waste-To-Energy
Systems, Thomas Trabold and Callie Babbitt, 2018. Page 238-250

(12 pages)

Wed Group Discussion

Fri Student presentation.

Quiz 7

Food Safety

10

Mar16-20

Mon Keeping Food Fresh (Postharvest Pathology)

Invited Speaker: Dr. Mark Ritenour, Professor,
Horticultural Sciences Department Identify the postharvest diseases

Postharvest Pathology, Don Prusky.

Chapt.1

Page 1-12

(12 pages)

Wed Keeping Food Fresh (Postharvest Pathology)

Dr. Mark Ritenour, Professor

Fri Student presentation on Food Safety.

Quiz 8

11

Mar23-27

Mon Food traceability and recall (The rise of recalls)
Invited Speaker: Dr.Naim Montazeri,
Assistant Professor of Food Virology
(<https://fshn.ifas.ufl.edu/directory/faculty/montazeri/>)
Recognize microbiology in food processing

Food Recall:
<https://edis.ifas.ufl.edu/fs108>

Wed Field Trip: The Food Safety Lab, Montazeri Lab, FSHN

Fri Student presentation on Reducing Food Recall.

Quiz 9

12

Mar30-

Apr3

Mon Harnessing predictive food microbiology to reduce food waste (Part I)

Invited Speaker: Dr.Daniel Czyz,
Assistant Professor of Microbiology & Cell Science
(<http://microcell.ufl.edu/people/faculty-directory/czyz/>)

Explore technologies in reducing food contamination Antibiotic Resistance Threats in the
United States

Wed Harnessing predictive food microbiology to reduce food waste (Part II)

Invited Speaker: Dr.Daniel Czyz

Fri Student presentation on Health Benefits in Reducing Food Waste.

Quiz 10

Communication Technology in Reducing Food Waste and Loss

13

Apr6-10

Mon

Field Trip: The Field and Food Pantry, UF campus Identify economic impact of food waste and
loss

100 Under \$100,Betsy Teusch.

Section 4

Page 152-197

(45 pages

Wed Effects of Waste on the Public Wallet

Invited Speaker: Anna Prizzia, Director, Field & Fork Program,
(<https://fieldandfork.ufl.edu/about/our-team/>)

Fri Student presentation on Economic Impacts from Food Waste.

Quiz 11

14

Apr13-17

Mon Food Waste and Hunger in Africa

Steve Sargent, Professor, Horticultural Science Department Learn food loss and waste in
Africa and other developing countries Postharvest Extension and Capacity Building for the
Developing World, Majeed Mohammed, Forwarded by Lisa Kitinoja. 2018.

Wed Group Discussion led by Dr. Tie Liu

Fri Student presentation on Ending Hunger.

Quiz 12

15

Apr20-24

Mon What Can We Do About Food Waste and Loss?
 Invited Speaker: Dr. Kevin Folta, Professor,
 Horticultural Science Department Communication and outreach strategies in reducing food
 waste
 Reducing Food Loss and Waste, 2019, WRI
 Chapt. 1
 Page 17-21
 (5 pages)
 Wed ReFED: the 27 Solutions to Reduce Food Waste and Loss
 Integrated solution to reduce food waste and loss Summary of solutions to reduce food waste
 and loss
 Fri Student presentation.
 Written Assignment
 Quest survey (15min)

16
 Apr27-May1
 Mon Final exam (20 min)

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:	Description	Requirements	Points
Assignment			
Weekly quizzes			

Every week on Wednesday during class, a 10-question quiz will be available in Canvas. Quizzes will consist mostly of multiple-choice questions. Each quiz will be worth 4 points, and there will be 10 quizzes during the semester. Each quiz will be timed to 10 minutes, and it can only be taken once. Students must bring a web-enabled device (laptop computer, tablet computer, phone) to take the quiz in.

40 points, 40%

Video recording The objective of this assignment is to document postharvest fruits or vegetables deterioration and its associated composting to create an informative video about the process of senescence and degradation for a fresh produce. Students will give 5 min explanation on how fresh produces are deteriorated and what biological events associated with the observations. Video will be peer-evaluated one week before the final exam.

Students will share videos with classmates and make PowerPoint for the case study of composting. Then, based on their case study information and feedback, students will prepare and record a 5-minute video where they introduce postharvest handling, process and storage of their vegetables and fruits as well as strategies for composting to reduce food waste and loss. Additional guidelines and grading rubrics for each submission will be provided via Canvas.

10 points, 10%

Mid-Term Exam

The mid-term exam will be given on campus at the 8th class week on the canvas website.

Students must bring a laptop for the exam which will contain 20 questions. Students must bring a web-enabled device (laptop computer, tablet computer, phone) to take the exam. If there is an issue with attending the exam at this time, it should be discussed with the Dr. Tie Liu at least one week before the exam. 10 points each, 10%

Final Exam

The final exam will be given on campus at the final week. Students must bring a laptop for the exam which will contain 20 questions. Students must bring a web-enabled device (laptop computer, tablet computer, phone) to take the exam. If there is an issue with attending the exam at this time, it should be discussed with the Dr. Tie Liu at least one week before the exam.

10 points each, 10%

Oral Presentation

Students will prepare and present a 15-minute oral presentation followed by a five-minute feedback section and discussion. Additional guidelines and grading rubrics will be provided via Canvas.

25 points, 25%

Class participation

Additional guidelines and grading rubrics will be provided via Canvas.

5 points, 5%

Instructor(s)

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

Response:

Tie Liu

Jeff Brecht

Mark Ritenour

Permanent Quest and General Education Approval

Please confirm that this new course request is for permanent Quest and General Education designations. Only courses which have already gone through the Temporary process may request Permanent approval.

Response:

Yes

Previous Temporary Approval

Please enter the 5 digit request number of the temporary Quest/General Education request that has previously been approved. If you are the previous submitter, this number may be found by accessing the Requests Submitted by You webpage and copying the relevant number in the 'Request' column.

Response:

14236

Which level of Quest will this course be offered under?

Response:

Quest 2

Indicate the requested general education subject area designation(s) requested for this course. International and Diversity designations may only be applied to a course in conjunction with another designation. Quest 2 courses may only select from the following General Education Subject Area designations. You may not select both International and Diversity for a single course.

Response:

B - Biological Sciences , N - International

Requested Writing Requirement Classification

Indicate the requested Writing Requirement designation requested for this course. Quest courses may only select 2000 or 4000 words.

Response:

E2 - 2000 words

Type of writing skill feedback provided

Response:

Grade

Course Updates: Temporary vs Permanent requests

Please list any substantive changes which were made to the course since temporary Quest/General Education approval was assigned. Include a rationale for each change.

Examples:

- *Course Content*
- *Assessments*
- *Learning objectives*

Response:

After I taught my first year of this course, I have made a list of all necessary changes to the course contents, topics, assignments and quest course requirements based on my own teaching experiences, students feedbacks, and guest lectures` comments.

1. **COURSE CONTENT:** course topics were adjusted and new content was included. See the new version of course weekly schedule at the page3.

The substance of this course originally consists of three parts, now it changed to the four parts: 1) postharvest raw product biology and processing 2) environmental and economic impacts of food loss and waste; 3) food safety and microbial hazards associated with fresh produce and meat; 4) communication technologies and innovative strategies to prevent and reduce food loss and waste.

I included communication and educational studies on reducing food waste to cover the topics of global issues of food waste and insecurity and to explore how reducing food waste program can train the future generations to conserve resources.

2. **COURSE DELIVERY:** During the class on Wednesday, a 15-min in-class TED talk was changed to an assignment for students to watch after class. A discussion about the TED talk was carried out in class led by the course director Dr. Tie Liu.

3. **COURSE MATERIALS:**

Textbooks: Four new text books were added.

- 1) Postharvest, an introduction to the physiology and handling of fruit and vegetable, Ron Wills

and John Golding, 2016 (6th Edition, Textbook)

2) Sustainable Food Waste-To-Energy Systems, Thomas Trabold and Callie Babbitt, 2018 (Textbook)

3) Postharvest Extension and Capacity Building for the Developing World, Majeed Mohammed, Forwarded by Lisa Kitinoja. 2018. (International studies on Food Security)

4) Characterization and Management of Food Loss and Waste in North America, White Paper by CEC (Commission for Environmental Cooperation), 2017. (Case studies on Food Waste)

Course website: Course lecture slides, handouts, syllabus, assignments, reading materials and other learning materials were uploaded to course website.

4. COURSE ASSIGNMENT

1) Provide details to the Written Assignment (Two-page Essay, 10 points, 10%)

- Write a two-page essay to show what is the best solution to reduce food waste and loss based on your real-life and personal experiences.

- Topic will be selected from The 27 of the Best Opportunities to Reduce Food Waste in the ReFED (Up to three key areas). <https://www.refed.com/solutions/?sort=economic-value-per-ton> (Links to an external site.)

- Students are encouraged to read outside sources or use papers from the oral presentation. The key areas include: postharvest issues, microbiology and health, food safety, environmental and economic issues of food waste.

- Additional guidelines and grading rubrics can be found on Canvas course website.

2) Include a Video Recording assignment (10 points, 10%)

The objective of this assignment is to document postharvest fruits or vegetables deterioration and its associated composting to create an informative video about the process of senescence and degradation for a fresh produce. Students will share videos with classmates and make PowerPoint for the case study of composting. Then, based on their case study information and feedback, students will prepare and record a 5-minute video where they introduce postharvest handling, process and storage of their vegetables and fruits as well as strategies for composting to reduce food waste and loss. Additional guidelines and grading rubrics for each submission will be provided via Canvas.

3) Oral Presentation description was added:

Students will prepare and present a 15-minutes oral presentation followed by a five minutes feedback section and discussion. Additional guidelines and grading rubrics for each submission was provided via Canvas.

4) Class participation (10 points, 10%)

Attendance & Make-up

Please confirm that you have read and understand the University of Florida Attendance policy.

A required statement related to class attendance, make-up exams and other work will be included in the syllabus and adhered to in the course. Courses may not have any policies which conflict with the University of Florida policy. The following statement may be used directly in the syllabus.

• Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

Response:

Yes

Accommodations

Please confirm that you have read and understand the University of Florida Accommodations policy.

A statement related to accommodations for students with disabilities will be included in the syllabus and adhered to in the course. The following statement may be used directly in the syllabus:

• Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, www.dso.ufl.edu/drc/) by providing appropriate documentation. Once registered, students will

receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Response:
Yes

UF Grading Policies for assigning Grade Points

Please confirm that you have read and understand the University of Florida Grading policies. Information on current UF grading policies for assigning grade points is require to be included in the course syllabus. The following link may be used directly in the syllabus:

- <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Response:
Yes

Course Evaluation Policy

Please confirm that you have read and understand the University of Florida Course Evaluation Policy. A statement related to course evaluations will be included in the syllabus. The following statement may be used directly in the syllabus:

- Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/public-results/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

Response:
Yes

HOS 2XXX FIGHTING FOOD WASTE AND LOSS

Quest 2

I. Course Information

[Fall, 2021]

Meeting Day/Time: [Monday, Wednesday, Friday, Period 4: 11:45 AM -12:35 PM]

Location: [TBA]

Primary General Education Designation: Biological Sciences

Secondary General Education Designation (if seeking): International (N)

A minimum grade of C is required for general education

Instructor

Tie Liu – tieliu@ufl.edu

Office location: Fifield Hall Room 1213

Office hours: Tuesday, 2:30 – 4:30 PM (and by appointment)

Phone: 352-846-2638

Course Description

Why should we care about Food Waste? In the United States, Americans throw away as much as 40% of all food at an estimated cost of \$165 billion every year. Worldwide, one-third of the world's food — some 1.3 billion tons — is lost or wasted every year. The facts of food loss and waste and the resulting consequences affect us in many ways, ranging from important economic and social issues to lasting and detrimental environmental problems. We need to work on these issues to develop a sustainable environment for global food security, population growth, and human health. This class is a biological science general education class designed for all students who are interested in learning and reflecting upon the major future challenges of food and agriculture. Students will learn about postharvest biology, environmental and food sciences, and communication technology in reducing food waste. Through active learning activities, group discussion, and field trips, students will gain knowledge on the interactions and interdisciplinary approaches among horticultural science, animal science, agronomy, environmental biology, food science & human nutrition, and public health as well as develop critical skills in the analysis of food waste problem. We will help students identify the current issues in food waste and loss, evaluate the economic problems of food waste, develop critical thinking, and identify strategies to reducing food waste and loss. The class include guest lectures, TED talks, group discussion and students` oral presentation. Assignments will include group discussions, report writings on selected topics, and oral presentation.

Required & Recommended Course Materials (to purchase/rent)

Required

- ***Postharvest handling***, Florkowski, 2009. (Textbook, Postharvest Waste and Loss)
- ***Postharvest, an introduction to the physiology and handling of fruit and vegetable***, Ron Wills and John Golding, 2016. (6th Edition, Textbook)

Recommended Readings

- ***Taking a Bite out of Food Waste: A Closer Look at What We're Leaving on the Table***, Adrian Hertel, 2018. (Empower Stakeholders)
- ***Food Waste at Consumer Level: A Comprehensive Literature Review***, Ludovica Principato, 2018. (Communication Technology in Food Waste and Loss)
- ***Sustainable Food Waste-To-Energy Systems***, Thomas Trabold and Callie Babbitt, 2018. (Textbook, Sustainable energy)
- ***Postharvest Pathology***, Don Prusky, 2010. (Textbook, Food Safety)
- ***Postharvest Extension and Capacity Building for the Developing World***, Majeed Mohammed, Forwarded by Lisa Kitinoja. 2018. (International studies on Food Security)
- ***Characterization and Management of Food Loss and Waste in North America***, White Paper by CEC (Commission for Environmental Cooperation), 2017. (Case studies on Food Waste)
- ***Food and Agriculture Organization of the United Nations report***, FAO. 2011. (Food Safety)
- ***100 Under \$100: Tools for Reducing Postharvest Losses***, Betsy Teusch, 2019. (Textbook, Communication Technologies in Reducing Food Waste and Loss)

II. Coursework & Schedule

1. List of Graded Work

Assignment	Description	Requirements	Points
Weekly quizzes	Every week on Wednesday during class, a 10-question quiz will be available in Canvas. Quizzes will consist mostly of multiple-choice questions. Each quiz will be worth 4 points, and there will be 10 quizzes during the semester.	Each quiz will be timed to 10 minutes, and it can only be taken once. Students must bring a web-enabled device (laptop computer, tablet computer, phone) to take the quiz in.	40 points, 40%
Video recording	The objective of this assignment is to document postharvest fruits or vegetables deterioration and its associated composting to create an informative video about the process of senescence and degradation for a fresh produce. Students will give 5 min explanation on how fresh produces are deteriorated and what biological events associated with the observations. Video will be peer-evaluated one week before the final exam.	Students will share videos with classmates and make PowerPoint for the case study of composting. Then, based on their case study information and feedback, students will prepare and record a 5-minute video where they introduce postharvest handling, process and storage of their vegetables and fruits as well as strategies for composting to reduce food waste and loss. Additional guidelines and grading rubrics for each submission will be provided via Canvas.	10 points, 10%
Mid-Term Exam	The mid-term exam will be given on campus at the 8 th class week on the canvas website.	Students must bring a laptop for the exam which will contain 20 questions. Students must bring a web-enabled device (laptop computer, tablet computer, phone) to take the exam. If there is an issue with attending the exam at this time, it should be discussed with the Dr. Tie Liu at least one week before the exam.	10 points each, 10%
Final Exam	The final exam will be given on campus at the final week.	Students must bring a laptop for the exam which will contain 20 questions. Students must bring a web-enabled device (laptop	10 points

		computer, tablet computer, phone) to take the exam. If there is an issue with attending the exam at this time, it should be discussed with the Dr. Tie Liu at least one week before the exam.	each, 10%
Oral Presentation	Students will prepare and present a 15-minutes oral presentation followed by a five minutes feedback section and discussion.	Additional guidelines and grading rubrics will be provided via Canvas.	25 points, 25%
Class participation		Additional guidelines and grading rubrics will be provided via Canvas.	5 points, 5%

2. Weekly Course Schedule

Week	Topic Area	Weekly SLO Description	Assignment and Weekly Readings
Food Waste and Loss			
1 Jan6-10 Mon	Food Waste and Loss: Why Should We Care? (Part I) (Overview of food loss and waste)	Recognize the global challenge of postharvest loss reduction	<i>Reducing Food Loss and Waste, 2019, WRI</i> <i>Page 3-15 (13 pages)</i> FAO website: http://www.fao.org/food-loss-and-food-waste/flw-data TED talk: A Recipe for Cutting Food Waste: Peter Lehner: https://www.youtube.com/watch?v=UwOHpWTRsbE
Wed	Food Waste and Loss: Why Should We Care? (Part II)		
Fri	Guidelines for preparing oral presentations.		
2 Jan13-17 Mon	Postharvest Procedures for the Maintenance of Food Quality (Vegetables and Fruits)	Understand postharvest physiology of fruit and vegetable	<i>Postharvest</i> <i>Ron Wills: Chapt. 1. Page 1-15 (15 pages)</i> Poore, J., and T. Nemecek. "Reducing Food's Environmental Impacts through Producers and Consumers." <i>Science</i> 360, no. 6392 (June 1, 2018): 987–92. https://doi.org/10.1126/science.aag0216 .
Wed	Postharvest Procedures for the Maintenance of Food Quality (Meat and Dairy)		
Fri	Guidelines for taking a time-lapse video of a vegetable or fruit. Quiz 1		
3 Mon	Holiday		<i>Postharvest</i> <i>Ron Wills, 2007, Chapt. 2, Page 16-33 (16 pages)</i>
Wed Jan22-24	Increasing Food Security by Optimizing Consumption (Part I) Invited Speaker: Dr. Jeff Brecht, Professor, Department of Horticultural Sciences	Learn various postharvest technologies	

Fri	Increasing food security by optimizing consumption (Part II) Quiz2		
4 Jan 27-31 Mon	Postharvest Handling to Reduce Food Waste and Loss (Part I) Dr. Jeff Brecht	Postharvest technology to reduce food waste and loss	Postharvest <i>Ron Wills, 2007, Chapt. 3, Page 34-60 (25 pages)</i> Ma, Yingqun, and Yu Liu. (2019) "Turning Food Waste to Energy and Resources towards a Great Environmental and Economic Sustainability: An Innovative Integrated Biological Approach." <i>Biotechnology Advances</i> 37, 7 https://doi.org/10.1016/j.biotechadv.2019.06.013 .
Wed	Postharvest Handling to Reduce Food Waste and Loss (Part I) Dr. Jeff Brecht		
Fri	Paper discussion (Dr. Jeff Brecht's recent publication) Guidelines for watching TED talks and taking Field Trips. Quiz 3		
5 Feb 3-7 Mon	Postharvest Handling for Livestock Products	Identify the best practices to keep meat fresh	Postharvest handling , Florkowski, 2009 <i>Chapt. 4, Page 43-52 (10 pages)</i>
Wed	Case studies: Grocery Meat and Food Terminal Rescue Programs-Moisson Montreal		FReSH-FLW Value Calculator beta-v1.1.xlsm FReSH FLW-value-calculator HOW-TO-USE.pdf https://www.thefoodwasteatlas.org/home (Links to an external site.) FLW Protocol Guidance on FLW Quantification Methods.pdf FLW Standard Exec Summary.pdf
Fri	Food Waste and Loss Calculator study Quiz 4		
6 Feb10-14 Mon	Impossible Burger: Future of Meat and Its Impact to Reduce Food Waste	Identify nutrition loss and alternative food for meat	100 Under \$100 , Betsy Teusch. <i>Section 5 Page200-212 (12 pages)</i> Video: TED talk: Compost king: Paul Sellew (Before Wednesday's class)

Wed	The Plant-based Alternatives to Meat Group discussion on TED talk: Compost king: Paul Sellew https://www.youtube.com/watch?v=6eXRfynD-M8		Nature- reduce meat consumption.pdf Video: TED talk https://www.ted.com/talks/bruce_friedrich_the_next_global_agricultural_revolution?utm_campaign=tedsread&utm_medium=referral&utm_source=tedcomshare
Fri	Student presentation. Quiz 5		
Sustainable Food Waste-to-Energy Systems			
7 Feb17-21 Mon	From Farm to Table Invited Speaker: Dr. Xin Zhao, Associate Professor, Horticultural Sciences Department	Explore small scale postharvest handling technology (Part I)	100 Under \$100, Betsy Teusch. <i>Section1, Page15-60 (34 pages)</i> Video: TED talk: Stop Wasting Food: Selina Juul (15 min) https://www.youtube.com/watch?v=dllhbjY4s8A
Wed	Urban Farming and Future Agriculture Paper discussion (Dr. Xin Zhao`s recent publication)		
Fri	Student presentation on Reducing Food Waste. Quiz 6		
8 Feb24-28 Mon	Feeding Food with Food (Food Waste Composting) Invited Speaker: Dr. Xin Zhao	Identify small scale postharvest handling technology (Part II)	Sustainable Food Waste-To-Energy Systems, Thomas Trabold and Callie Babbitt, 2018. Slorach, Peter C. et al. "Assessing the Economic and Environmental Sustainability of Household Food Waste Management in the UK: Current Situation and Future Scenarios." <i>Science of The Total Environment</i> 710 (March 2020): 135580. https://doi.org/10.1016/j.scitotenv.2019.135580
Wed	Sustainable Waste-to-energy System: Conventional Methods, Student presentation		
Fri	Mid-term Exam (20 min)		

Mar2-6	Spring Break		
9 Mar9-13 Mon	Sustainable Waste-to-energy System: Alternative/Advance Technologies	Technologies in converting waste to energy systems	<i>Sustainable Food Waste-To-Energy Systems</i> , Thomas Trabold and Callie Babbitt, 2018. <i>Page 238-250 (12 pages)</i> TED talk: The Global Waste Scandal; (15 min) https://www.ted.com/talks/tristram_stuart_the_global_food_waste_scandal?language=en#t-268769
Wed	Paper discussion (Dr. Xin Zhao`s recent publication) Group Discussion		
Fri	Student presentation. Quiz 7		
Food Safety			
10 Mar16-20 Mon	Keeping Food Fresh (Postharvest Pathology) Invited Speaker: Dr. Mark Ritenour, Professor, Horticultural Sciences Department	Identify the postharvest diseases	<i>Postharvest Pathology</i> , Don Prusky. <i>Chapt.1, Page 1-12 (12 pages)</i>
Wed	Keeping Food Fresh (Postharvest Pathology) Dr.Mark Ritenour, Professor		
Fri	Paper discussion (Dr. Mark Ritenour`s recent publication) Student presentation on Food Safety. Quiz 8		
11 Mar23-27 Mon	Food traceability and recall (The rise of recalls) Invited Speaker: Dr.Naim Montazeri, Assistant Professor of Food Virology (https://fshn.ifas.ufl.edu/directory/faculty/montazeri/)	Recognize microbiology in food processing	Food Recall: https://edis.ifas.ufl.edu/fs108
Wed	Field Trip: The Food Safety Lab, Montazeri Lab, FSHN		

Fri	Paper discussion (Dr. Naim Montazeri `s recent publication) Student presentation on Reducing Food Recall. Quiz 9		
12 Mar30- Apr3 Mon	Harnessing predictive food microbiology to reduce food waste (Part I) Invited Speaker: Dr.Daniel Czyz, Assistant Professor of Microbiology & Cell Science(http://microcell.ufl.edu/people/faculty-directory/czyz/)	Explore technologies in reducing food contamination	Antibiotic Resistance Threats in the United States 2019-ar-threats-report-508.pdf Lecture 21 - Food and human gut as reservoirs of transferable antibiotic resistance encoding genes.pdf Lecture 2 - Reducing antimicrobial use in food animals.pdf
Wed	Harnessing predictive food microbiology to reduce food waste (Part II) Invited Speaker: Dr.Daniel Czyz		
Fri	Paper discussion (Dr.Daniel Czyz `s recent publication) Student presentation on Health Benefits in Reducing Food Waste. Quiz 10		
Communication Technology in Reducing Food Waste and Loss			
13 Apr6-10 Mon	Field Trip: The Field and Food Pantry, UF campus	Identify economic impact of food waste and loss	100 Under \$100 , Betsy Teusch. <i>Section 4, Page 152-197 (45 pages)</i>
Wed	Effects of Waste on the Public Wallet Invited Speaker: Anna Prizzia, Director, Field & Fork Program, (https://fieldandfork.ufl.edu/about/our-team/)		
Fri	Student presentation on Economic Impacts from Food Waste.		

14 Apr13-17 Mon	Food Waste and Hunger in Africa Steve Sargent, Professor, Horticultural Science Department	Learn food loss and waste in Africa and other developing countries	<i>Postharvest Extension and Capacity Building for the Developing World</i> , Majeed Mohammed, Forwared by Lisa Kitinoja. 2018. Feed the Future Tanzania Mboga na Matunda (FTFT-MnM) Tanzania MnM Monthly Update March 2020.pdf
Wed	Group Discussion led by Dr. Tie Liu		Tanzania MnM Monthly Update March 2020.pdf
Fri	Student presentation on Ending Hunger.		Video: Wasted! The Story of Food Waste (2017) <i>Anthony Bourdain</i> https://www.imdb.com/video/vi1612232985?
15 Apr20-24 Mon	What Can We Do About Food Waste and Loss? Invited Speaker: Dr. Kevin Folta, Professor, Horticultural Science Department	Communication and outreach strategies in reducing food waste	<i>Reducing Food Loss and Waste, 2019, WRI Chapt.1, Page 17-21(5 pages)</i> The power of suboptimal food choice and how we communicate issues in quality and edibility
Wed	ReFED: the 27 Solutions to Reduce Food Waste and Loss Integrated solution to reduce food waste and loss	Summary of solutions to reduce food waste and loss	https://medium.com/working-for-change/my-rescue-bananas-6fc6f819bf7c
Fri	Paper discussion (Dr. Kevin Folta `s recent publication) Student presentation. Quest survey (15min)		
16 Apr27- May1 Mon	Final exam (20 min)		

III. Grading

3. Statement on Attendance and Participation

Attendance and Participation:

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

- **Participation:** Consistent informed, thoughtful, and considerate class participation is expected and will be evaluated using the rubric below. The instructor will inform you of your participation grade to date when mid-term exams are returned and schedule a conference if you are earning below 70% of the possible points.
- **NOTE:** If you have personal issues that prohibit you from joining freely in class discussion, e.g., shyness, language barriers, etc., see the instructor as soon as possible to discuss alternative modes of participation.

Participation Grading Rubric (5 points, 5%):

	High Quality	Average	Needs Improvement
Informed: Shows evidence of having done the assigned work.	9-10	6-8	1-5
Thoughtful: Shows evidence of having understood and considered issues raised.	9-10	6-8	1-5
Considerate: Takes the perspective others into account.	9-10	6-8	1-5

4. Grading Scale

For information on how UF assigns grade points, visit: <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>

A	94 – 100% of possible points		C	74 – 76%
A-	90 – 93%		C-	70 – 73%
B+	87 – 89%		D+	67 – 69%
B	84 – 86%		D	64 – 66%
B-	80 – 83%		D-	60 – 63%
C+	77 – 79%		E	<60

IV. Quest Learning Experiences

5. Details of Experiential Learning Component

- The experiential learning component will be achieved through the examination of postharvest issues, energy-to-waste system, food safety and education to find solutions to reduce food waste and loss. Each week, students will study lecture concepts on the topics of the four core areas. During the class in Wednesday, the case studies and discussion on the topics will be brought by practicing critical thinking. An oral presentation on Friday will be summarized the research-based articles for evidence of application activities in the four core areas and reinforced critical evaluation for discussion.

6. Details of Self-Reflection Component

- In weekly class lectures, students will be required to participate in group discussion about the TED talks on Reducing Food Waste and Loss. A video recording assignment on Food Composting was designed to give students opportunity to learn and practice food recovery system at home and local community. Students will present their videos to the class and participate peer evaluation. Students were also required to submit the final written assignment to discuss global food security and present their ideas and hypotheses on developing potential strategies to reduce food waste and loss to maintain food quality for environmentally sustainable methods.

V. General Education and Quest Objectives & SLOs

7. This Course's Objectives—Gen Ed Primary Area and Quest

Quest 2 courses are grounded in the modes of inquiry and analysis characteristic of the social and/or biophysical sciences, Quest 2 courses invite students to address pressing questions facing human society and the planet—questions that outstrip the boundaries of any one discipline and that represent the kind of open-ended, complex issues they will face as critical, creative, and thoughtful adults navigating a complex and interconnected world.

General Education, Biological Sciences (B) Description:

Biological science courses provide instruction in the basic concepts, theories and terms of the scientific method in the context of the life sciences. Courses focus on major scientific developments and their impacts on society, science and the environment, and the relevant processes that govern biological systems. Students will formulate empirically testable hypotheses derived from the study of living things, apply logical reasoning skills through scientific criticism and argument, and apply techniques of discovery and critical thinking to evaluate outcomes of experiments.

Accomplishing Objectives:

After taking Fighting Food Waste and Loss course, students will be able to:

1. Explain the global issue of food loss and waste.
2. Analyze current food loss and waste issues and the relationships among food safety, nutrition and public health as well as the related environmental, social, and economic impacts.
3. Summarize and evaluate research-based articles for evidence of anthropogenic activities altering biodiversity and, subsequently, ecosystem services.

8. This Course's Student Learning Outcomes (SLOs)—Gen Ed Primary Area and Quest

Quest 2 Student Learning Outcomes:

1. Identify, describe, and explain the cross-disciplinary dimensions of a pressing societal issue or challenge as represented by the social sciences and/or biophysical sciences incorporated into the course. **(Content)**
2. Critically analyze quantitative or qualitative data appropriate for informing an approach, policy, or praxis that addresses some dimension of an important societal issue or challenge. **(Critical Thinking)**
3. Develop and present, in terms accessible to an educated public, clear and effective responses to proposed approaches, policies, or practices that address important societal issues or challenges **(Communication)**
4. Connect course content with critical reflection on their intellectual, personal, and professional development at UF and beyond. **(Connection)**

General Education, Biological Sciences Student Learning Outcomes:

1. Identify, describe, and explain the basic concepts, theories and terminology of natural science and the scientific method; the major scientific discoveries and the impacts on society and the environment; and the relevant processes that govern biological and physical systems. **(Content)**
2. Formulate empirically testable hypotheses derived from the study of physical processes or living things; apply logical reasoning skills effectively through scientific criticism and argument; and apply techniques of discovery and critical thinking effectively to solve scientific problems and to evaluate outcomes. **(Critical thinking)**
3. Communicate scientific knowledge, thoughts, and reasoning clearly and effectively. **(Communication)**

Accomplishing Objectives:

After taking Fighting Food Waste and Loss, students will be able to:

1. Evaluate the environmental and economic impacts of food waste and food loss. Discuss global food security.
2. Develop potential strategies to reduce food waste and loss to maintain food quality and to develop environmentally sustainable methods.
3. Identify and communicate the strategies to reducing food loss and waste to create a sustainable food future.

9. Secondary Objectives and SLOs

General Education, International (I) Description:

International courses promote the development of students' global and intercultural awareness. Students examine the cultural, economic, geographic, historical, political, and/or social experiences and processes that characterize the contemporary world, and thereby comprehend the trends, challenges, and opportunities that affect communities around the world. Students analyze and reflect on the ways in which cultural, economic, political, and/or social systems and beliefs mediate their own and other people's understanding of an increasingly connected world.

General Education, International Student Learning Outcomes:

1. The general education objects will be accomplished through the identification of the global issue of food waste and loss in the aspects of the environment, economy, food safety, and ethics to discuss the potential solutions to reduce the food waste and to develop a sustainable agriculture globally. (**Content**)
2. Students will understand the food waste and loss has become a worldwide topic of interests and study the postharvest biology and technology to reduce food waste and loss. (**Critical thinking**)
3. Each week, a lecture and a TED talk followed by a discussion will be provided to discuss the topics from worldwide problem to household solutions of reducing food waste and loss. Students will make assessment and discuss the potential solution through critical thinking and group discussions. (**Communication**)

VI. Required Policies

View details about the required policies in the [UF Quest Syllabus Builder](#).

10. Students Requiring Accommodation

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center by visiting <https://disability.ufl.edu/students/get-started/>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

11. UF Evaluations Process

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

12. University Honesty Policy

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

13. Counseling and Wellness Center

Contact information for the Counseling and Wellness Center: <http://www.counseling.ufl.edu/cwc/Default.aspx>, 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

14. The Writing Studio

The writing studio is committed to helping University of Florida students meet their academic and professional goals by becoming better writers. Visit the writing studio online at <http://writing.ufl.edu/writing-studio/> or in 2215 Turlington Hall for one-on-one consultations and workshops.

Apr 27, 2020

Dear Dr. Wolpert and the Quest2 Course Committee,

I am writing to you about applying for the permanent approval for my Quest 2 course IDS2935/#23204, Fighting Food Waste and Loss. I am an assistant professor in the Horticultural Sciences Department at the University of Florida. My research and teaching focus is on postharvest biology and technologies to reduce food waste and losses. This is an interdisciplinary course that focuses on the interactions among horticultural science, animal science, agronomy, environmental biology, food science & human nutrition, and public health as well as communication and educational studies on reducing food waste.

After I taught my first year of this course, I have made a list of all necessary changes to the course contents, topics, assignments and quest course requirements based on my own teaching experiences, students feedbacks, and guest lectures' comments.

1. **COURSE CONTENT:** course topics were adjusted and new content was included.

See the new version of course weekly schedule at the page3. The reason for the various changes are highlighted.

The substance of this course originally consists of three parts, now it changed to the four parts because students showed strong interests in sustainable waste-to-energy system, food safety and displayed passion in pursuing a future career in that area.

1) postharvest raw product biology and processing 2) environmental and economic impacts of food loss and waste; 3) food safety and microbial hazards associated with fresh produce and meat; 4) communication technologies and innovative strategies to prevent and reduce food loss and waste.

I included communication and educational studies on reducing food waste to cover the topics of global issues of food waste and insecurity and to explore how reducing food waste program can train the future generations to conserve resources.

2. **COURSE DELIVERY:** During the class on Wednesday, a 15-min in-class TED talk was changed to an assignment for students to watch after class. A discussion about the TED talk was carried out in class led by the course director Dr. Tie Liu. This changes will enhance the students motivation and increase a better class discussion.

3. **COURSE MATERIALS:**

Textbooks: Four new textbooks were added to provide additional readings for students.

1) *Postharvest, an introduction to the physiology and handling of fruit and vegetable*, Ron Wills and John Golding, 2016 (6th Edition, Textbook)

- 2) *Sustainable Food Waste-To-Energy Systems*, Thomas Trabold and Callie Babbitt, 2018 (Textbook)
- 3) *Postharvest Extension and Capacity Building for the Developing World*, Majeed Mohammed, Forwarded by Lisa Kitinoja. 2018. (International studies on Food Security)
- 4) *Characterization and Management of Food Loss and Waste in North America*, White Paper by CEC (Commission for Environmental Cooperation), 2017. (Case studies on Food Waste)

Course website: Course lecture slides, handouts, syllabus, assignments, reading materials and other learning materials were uploaded to course website.

4. COURSE ASSIGNMENT

1) **Provide details to the Written Assignment (Two-page Essay, 10 points, 10%).** The description and rubrics will give additional guideline for students to prepare this assignment.

- Write a two-page essay to show what is the best solution to reduce food waste and loss based on your real-life and personal experiences.
- Topic will be selected from The 27 of the Best Opportunities to Reduce Food Waste in the ReFED (Up to three key areas). <https://www.refed.com/solutions/?sort=economic-value-per-ton> (Links to an external site.)
- Students are encouraged to read outside sources or use papers from the oral presentation. The key areas include: postharvest issues, microbiology and health, food safety, environmental and economic issues of food waste.
- Additional guidelines and grading rubrics can be found on Canvas course website.

2) **Include a Video Recording assignment (10 points, 10%).**

The objective of this assignment is to document postharvest fruits or vegetables deterioration and its associated composting to create an informative video about the process of senescence and degradation for a fresh produce. This assignment will provide an opportunity for students to observe and document the food degradation and deterioration process. Students will share videos with classmates and make PowerPoint for the case study of composting. Then, based on their case study information and feedback, students will prepare and record a 5-minute video where they introduce postharvest handling, process and storage of their vegetables and fruits as well as strategies for composting to reduce food waste and loss. Additional guidelines and grading rubrics for each submission will be provided via Canvas.

3) **Oral Presentation description was added.** The description and rubrics will give additional guideline for students to prepare this assignment.

Students will prepare and present a 15-minutes oral presentation followed by a five minutes feedback section and discussion. Additional guidelines and grading rubrics for each submission was provided via Canvas.

4) **Class participation (10 points, 10%).**

Thank you for your consideration,



Tie Liu, Ph.D

COURSE WEEKLY SCHEDULE

(Major topics highlighted in green, Lectures in grey, TED talks and Group Discussion in yellow)

Week	Topic Area	Weekly SLO Description	Weekly Readings
Food Waste and Loss			
1 Jan6-10 Mon	Food Waste and Loss: Why Should We Care? (Part I) (Overview of food loss and waste)	Recognize the global challenge of postharvest loss reduction	<i>Reducing Food Loss and Waste, 2019, WRI</i> <i>Page 3-15</i> (13 pages)
Wed	Food Waste and Loss: Why Should We Care? (Part I)		
Fri	Guidelines for preparing oral presentations.		
2 Jan13-17 Mon	Postharvest Procedures for the Maintenance of Food Quality (Vegetables and Fruits)	Understand postharvest physiology of fruit and vegetable	<i>Postharvest Ron Wills: Chapt. 1</i> <i>Page 1-15</i> (15 pages)
Wed	Postharvest Procedures for the Maintenance of Food Quality (Meat and Dairy)		
Fri	Guidelines for taking a time-lapse video of a vegetable or fruit. Quiz 1		
3 Mon	Holiday		
Wed Jan22-24	Increasing Food Security by Optimizing Consumption (Part I) Invited Speaker: Dr. Jeff Brecht, Professor, Department of Horticultural Sciences	Learn various postharvest technologies	<i>Postharvest Ron Wills, 2007</i> <i>Chapt. 2</i> <i>Page 16-33</i> (16 pages)
Fri	Increasing food security by optimizing consumption (Part II) Quiz2		
4 Jan 27-31 Mon	Postharvest Handling to Reduce Food Waste and Loss (Part I) Dr. Jeff Brecht	Postharvest technology to reduce food waste and loss	<i>Postharvest Ron Wills, 2007</i> <i>Chapt. 3</i> <i>Page 34-60</i> (25 pages)
Wed	Postharvest Handling to Reduce Food Waste and Loss (Part I) Dr. Jeff Brecht		
Fri	Guidelines for watching TED talks and taking Field Trips. Quiz 3		
5 Feb 3-7 Mon	Postharvest Handling for Livestock Products	Identify the best practices to keep meat fresh	<i>Postharvest handling, Florkowski, 2009</i>

Wed	Case studies: Grocery Meat and Food Terminal Rescue Programs-Moisson Montreal		<i>Chapt. 4 Page 43-52 (10 pages)</i>
Fri	Food Waste and Loss Calculator study Quiz 4		
6 Feb10-14 Mon	Impossible Burger: Future of Meat and Its Impact to Reduce Food Waste	Identify nutrition loss and alternative food for meat	100 Under \$100 , Betsy Teusch. <i>Section 5 Page200-212 (12 pages)</i>
Wed	The Plant-based Alternatives to Meat Group discussion on TED talk: Compost king: Paul Sellew (15 min) https://www.youtube.com/watch?v=6eXRfynD-M8		
Fri	Student presentation. Quiz 5		
Sustainable Food Waste-to-Energy Systems			
7 Feb17-21 Mon	From Farm to Table Invited Speaker: Dr. Xin Zhao, Associate Professor, Horticultural Sciences Department	Explore small scale postharvest handling technology (Part I)	100 Under \$100 , Betsy Teusch. <i>Section1 Page15-60 (34 pages)</i>
Wed	Urban Farming and Future Agriculture Group Discussion		
Fri	Student presentation on Reducing Food Waste. Quiz 6		
8 Feb24-28 Mon	Feeding Food with Food (Food Waste Composting) Invited Speaker: Dr. Xin Zhao	Identify small scale postharvest handling technology (Part II)	Sustainable Food Waste-To-Energy Systems , Thomas Trabold and Callie Babbitt, 2018.
Wed	Sustainable Waste-to-energy System: Conventional Methods Student presentation		
Fri	Mid-term Exam (20 min)		
Mar2-6	Spring Break		
9 Mar9-13 Mon	Sustainable Waste-to-energy System: Alternative/Advance Technologies	Technologies in converting waste to energy systems	Sustainable Food Waste-To-Energy Systems , Thomas Trabold and Callie Babbitt, 2018.
Wed	Group Discussion		
Fri	Student presentation. Quiz 7		<i>Page 238-250 (12 pages)</i>
Food Safety			
10 Mar16-20 Mon	Keeping Food Fresh (Postharvest Pathology) Invited Speaker: Dr. Mark Ritenour, Professor, Horticultural Sciences Department	Identify the postharvest diseases	Postharvest Pathology , Don Prusky. <i>Chapt.1 Page 1-12</i>

Wed	Keeping Food Fresh (Postharvest Pathology) Dr.Mark Ritenour, Professor		(12 pages)
Fri	Student presentation on Food Safety. Quiz 8		
11 Mar23-27 Mon	Food traceability and recall (The rise of recalls) Invited Speaker: Dr.Naim Montazeri, Assistant Professor of Food Virology (https://fshn.ifas.ufl.edu/directory/faculty/montazeri/)	Recognize microbiology in food processing	Food Recall: https://edis.ifas.ufl.edu/fs108
Wed	Field Trip: The Food Safety Lab, Montazeri Lab, FSHN		
Fri	Student presentation on Reducing Food Recall. Quiz 9		
12 Mar30-Apr3 Mon	Harnessing predictive food microbiology to reduce food waste (Part I) Invited Speaker: Dr.Daniel Czyz, Assistant Professor of Microbiology & Cell Science (http://microcell.ufl.edu/people/faculty-directory/czyz/)	Explore technologies in reducing food contamination	Antibiotic Resistance Threats in the United States
Wed	Harnessing predictive food microbiology to reduce food waste (Part II) Invited Speaker: Dr.Daniel Czyz		
Fri	Student presentation on Health Benefits in Reducing Food Waste. Quiz 10		
Communication Technology in Reducing Food Waste and Loss			
13 Apr6-10 Mon	Field Trip: The Field and Food Pantry, UF campus	Identify economic impact of food waste and loss	100 Under \$100 , Betsy Teusch. Section 4 Page 152-197 (45 pages)
Wed	Effects of Waste on the Public Wallet Invited Speaker: Anna Prizzia, Director, Field & Fork Program, (https://fieldandfork.ufl.edu/about/our-team/)		
Fri	Student presentation on Economic Impacts from Food Waste. Quiz 11		
14 Apr13-17 Mon	Food Waste and Hunger in Africa Steve Sargent, Professor, Horticultural Science Department	Learn food loss and waste in Africa and other developing countries	Postharvest Extension and Capacity Building for the Developing World , Majeed Mohammed, Forwarded by Lisa Kitinoja. 2018.
Wed	Group Discussion led by Dr. Tie Liu		
Fri	Student presentation on Ending Hunger. Quiz 12		
15 Apr20-24 Mon	What Can We Do About Food Waste and Loss? Invited Speaker: Dr. Kevin Folta, Professor, Horticultural Science Department	Communication and outreach strategies in reducing food waste	Reducing Food Loss and Waste ,

Wed	ReFED: the 27 Solutions to Reduce Food Waste and Loss Integrated solution to reduce food waste and loss	Summary of solutions to reduce food waste and loss	<i>2019, WRI Chapt.1 Page 17-21</i>
Fri	Student presentation. Written Assignment		<i>(5 pages)</i>
16 Apr27- May1 Mon	Final exam (20 min)		