

FOS 4310L
Experimental Food Laboratory
1 credit
Spring Semester 2023

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| Instructor: | Sharyn Passeretti, Teaching Laboratory Specialist II |
| Contact Information: | Food Science and Human Nutrition Department Room 333A, FSHN Building, Newell Drive Office Phone: 352.294.3729 Cell Phone: 386-299-9328 (text is best) Email: sharyn@ufl.edu |
| Office hours : | Currently by appointment only. Always available by text |
| Lab Time : | 13579 Section M810: Monday periods 8 - 10 (3:00PM - 6:00PM) 13580 Section W567: Wednesday Periods 5 – 7 (11:45AM – 2:45PM) 26033 Section W810: Wednesday periods 8 – 10 (3:00PM – 6:00PM) Location: Experimental Food Lab—Located in the Pilot Plant Food Science & Human Nutrition Building 572 Newell Drive, Room 130 |
| Course Prerequisites/ Co-requisites: | Food Chemistry (FOS 4311) |
| Course Description: | This course is designed to demonstrate and illustrate the chemical and physical properties of foods. The Course shows the effects that ingredient and/or processing applications can have on food applications. Students will prepare and evaluate different food products (fudge, cheese, bake goods, etc.) using various chemical, instrumental, and sensory analysis techniques. The focus is on applied food development for dietetic students. |
| Objectives: | <ul style="list-style-type: none"> • To integrate chemistry and biochemistry principles into real-world food science and nutritional problems. • To determine how ingredients, food components, processing, influences the quality, sensory, and physical and chemical parameters of finished food products. • To compare and contrast various food processing operations on the chemical changes of food components as they relate to food quality, nutrient composition, and safety. • To document technical and observational data during the laboratory experimentation: • All data and observations will be written into the students lab notebook, and the data will be entered into the class excel file on canvas. • The students will analyze the information using computer programs by tabulating data, performing calculations and statistical analyses; • to document laboratory exercises by submitting reports in a standard journal format; to enhance the student's ability to present written information of a scientific nature combined with the hands-on experiences. |
| Texts: Optional | <ul style="list-style-type: none"> • Introductory Foods, 15th Edition, Barbara Scheule Ph.D., RDN; Amanda Frye MS, RDN. Pearson ISBN-13: 9780134554891 • Experimental Foods Laboratory Manual, 9th Edition, Margaret McWilliams. Pearson ISBN-10 0-13-235328-8 |

GRADING

PERCENTAGE & POINTS BREAKDOWN

25.29% IN LAB PERFORMANCE—11 points each lab

22.99% PRE-LAB QUIZ—10 points each lab

34.48% LAB REPORTS—there are 3 reports worth 50 points each.

17.24% LAB ASSIGNMENTS—there are 3 lab assignments worth 25 points each

Examinations:

There are no written examinations for this lab class.

Grading will be based solely on lab performance points and lab reports. The letter grade will be the percentage of the cumulative points.

| PERCENTILE | POINTS | LETTER GRADE |
|--------------|-----------|--------------|
| 90.0 – 100.0 | 392 - 435 | A |
| 87.0 – 89.9 | 379 - 391 | A- |
| 84.0 – 86.9 | 365 - 378 | B+ |
| 81.0 – 83.9 | 353 - 365 | B |
| 78.0 – 80.9 | 340 - 352 | B- |
| 75.0 – 79.9 | 327 - 348 | C+ |
| 72.0 – 74.9 | 314 - 326 | C |
| 69.0 - 71.9 | 301 - 313 | C- |
| 66.0 – 68.9 | 288 - 300 | D+ |
| 63.0 – 65.9 | 274 - 287 | D |
| 60.0 – 62.9 | 261 - 274 | D- |
| 0 – 59.9 | 0 - 261 | E |

LABORATORY SCHEDULE AND REPORT/ASSIGNMENT DUE DATES

| Lab Topics | Lab Date Mon & Wed | Report Or Assignment | Due Date | Points |
|--------------------------------|--------------------------|----------------------------|-------------|--------|
| 1. LAB INTRODUCTION | 1/09 & 1/11 | QUIZ 10 INFO & PHOTO 11 | 1/13/23 | 21 |
| 2. MEASUREMENTS & FOOD ACIDITY | 1/23 & 1/25 | ASSIGNMENT | 2/08/22 | 25 |
| 3. CARBOHYDRATES I | 1/30 & 2/1 | REPORT | 2/22/22 | 50 |
| 4. CARBOHYDRATES II | 2/06 & 2/08 | | | |
| 5. PROTEINS I | 2/13 & 2/15 | REPORT | 3/08/22 | 50 |
| 6. PROTEINS II | 2/20 & 2/22 | ASSIGNMENT | 3/22/22 | 25 |
| 7. LEAVENING & ENZYMES | 2/27 & 3/01 | | | |
| 8. LIPIDS I | 3/06 & 3/08 | REPORT | 4/05/22 | 50 |
| 9. LIPIDS II | 3/20 & 3/22 | | | |
| 10. PIGMENTS | 4/03 & 4/05 | ASSIGNMENT | 4/19/22 | 25 |

LAB PERFORMANCE POINT OUTLINE

ATTENDANCE & PREPARATION

The course expectations mirror that of your future employers. The purpose of this section is to establish good working practices. Here is the outline—**each numbered requirement is worth one point each.**

QUIZZES—10 POINTS

There will be a quiz prior to lab covering the written and video material. **There will be 5 general knowledge lab questions worth one point each, and 1 lab recipe instruction question worth 5 points.** The format will be multiple choice, true/false, or fill in the blank. The recipe question will require you to put the cooking instructions in order for one of the recipes you will be making that day.

LAB PERFORMANCE—6 POINTS

1. **Punctuality—Be on time for lab.** If you come in during or after the pre-lab instruction, you will lose this point.
2. **Preparation—Be prepared for lab**—if not properly dressed will not be allowed to perform the lab.
 - a. Only flat closed toed shoes with a nonskid sole are allowed. Sneakers, work shoes. No open toes or sandals allowed.
 - b. Long or short Sleeved full coverage shirts. No sleeveless, tank tops, midriiffs.
 - c. Loose fitting pants (e.g. scrubs, sweat pants). No leggings, stretch jeans or shorts. Loose fitting clothing prevents hot items from sticking to the skin, which can help prevent burns from happening.
 - d. Hair coverings or equivalent are required. You are issued a hair net at the beginning of the semester with a plastic bag to store it in. Hair shoulder length needs to be tide back. Longer hair needs to be braided or bound in a bun or similar fashion.
 - e. Only your writing material, cell phones **for lab photos only** are allowed in the lab. All other items (including your water bottles) are kept on the shelf by the partition. **Phone calls and texting is prohibited during lab time. Doing So Will Result In 0 Lab Performance points for the day**
3. **Follows Instructions - Follows written lab instructions and recipes.** Do not make changes the recipe or method.
4. **Group work station performance**
 - a. Label and date your groups projects so other groups know who it belongs to
 - b. Proper use of utensils and equipment.
 - c. Application of your serve safe training.
 - d. Upon completion of your experiment, clean your work station, then have the sanitation stewards inspect and sign off on it.
 - i. For Monday & early Wednesday group—reset the station bench set up for the following lab group exactly as you received it.
 - ii. For late Wednesday group put away all utensils and equipment in its proper place
5. **Common area performance**
 - a. Do not take common area items back to your station. e.g. universal measuring items, unportioned ingredients from the weighing stations.
 - b. FIFO of ingredients. Do not leave empty containers for someone else to pick up.
 - c. Clean as you go. Do not leave a mess for others to clean up.
6. **Cleaning of common lab Area**—The cleaning includes, but is not limited to the following:
 - a. **Common area weigh station set up**
 - i. **Monday & early Wednesday:**
 1. Put cold storage away. Cover/seal of dry ingredient containers/bowls.
 2. Clean the counters with soap and water if needed (e.g. breadng station)
 3. Make sure utensils clean, dry and set up exactly as you received it.
 - ii. **Late Wednesday group**
 1. Put always all cold and dry storage.
 2. Put away all the utensils used for the lab.
 - b. Wash down all common area counters and tables with soap & water. Followed by spaying with 70% ethanol and wiping with a dry towel.
 - c. Refill soap, sanitizer, ethanol, or paper towels from the supply cabinets.
 - d. Laundry—kitchen stewards will have laundry duty.
 - i. Monday stewards folds last week’s dryer load and starts the labs load. TA/instructor moves it to dryer.
 - ii. Wednesday 11:45AM stewards fold the dryer load and starts the labs wash load.
 - iii. Wednesday 3:00PM stewards moves the wash load to the dryer. Folds the dried load and starts the labs wash. TA/instructor will move it to the dryer.

LAB CLEAN UP & CHECKOUT—5 POINTS

1. Food Use & Storage: All Food is properly labeled, dated, initialed, and put away in cold or dry storage areas.
2. Sanitation steward has verified all aprons are properly prepped for the washer and has checked off the sanitation sheet for each groups work area for the following cleaning duties.
 - a. Dishwashing: All dishes for cooking and service are properly washed, sanitized, dried & put away.
 - i. Monday & Wednesday group in the station will dry and put item back to the experiment location
 - ii. 2nd Wednesday group will dry and put all items back neatly in their designated areas
There is an inventory sheet located by the electric box and photos on canvas and by the electric boxes in the lab.
 - b. Stove Breakdown: With soap water & scrubbie if needed for the entire stove meaning: stove top, control panel, oven door, pot drawer. Baked on use the bar keepers friend, then finish with glass top polisher.
 - c. Counter & Table Breakdown: All surface areas that are used during the cooking session are to be washed down with soap and water then sanitized with 70% ethanol and wiped with dry towel.
 - d. Sink Breakdown:
 - i. Wash down with barkeepers friend and scrubbie all sink and backsplash, rinse with water.
 - ii. Rinse with water. Spray with 70% ethanol. Squeegee excess down drain. Dry with dish cloth.
3. Your data entry into the canvas collaboration sheet has been **verified by instructor or TA/CA.**
4. You leave no clutter behind. E.g. printed handouts, data printed on paper, used gloves/masks, etcetera.
5. You do not leave lab for the day without the permission of the instructor.

STEWARD ROTATIONS

1. Groups will be assigned kitchen steward and sanitation steward responsibilities throughout the semester. Expect to have this responsibility at least two times. There are check sheets listing the responsibilities.

LABORATORY REPORTS & ASSIGNMENTS

To enhance the student's ability to analyze and present scientific information in a logical and acceptable written format, laboratory reports and assignments are required for each general area of study. Reports are to be written using a scientific report outline.

Submissions: All reports and assignments will be submitted through canvas by 5:00PM of the due date.

LATE REPORT POLICY: Late reports will lose 5 pts for each day submitted after *the deadline.* Reports will not be accepted beyond 6 days late and thus will result in a 0 (zero).

FORMAT FOR WRITING LABORATORY REPORT

| REPORT SECTION | SECTION DESCRIPTION | POINTS |
|--|--|-----------|
| Cover Page/File Name | Cover Page: Make sure it is properly centered. <ol style="list-style-type: none"> 1. Lab Number and title 2. Submission date 3. Your name E-file title for submission <ol style="list-style-type: none"> 1. Submission date 2. Lab Number & title 3. Your name E.G. 2-20-22 Lab 3 Carbohydrates S Passeretti There will be a 15 point penalty for not following these instructions | 0 |
| Introduction | <ol style="list-style-type: none"> 1. Introduction paragraph consisting of <ol style="list-style-type: none"> a. General information about the topic. E.g. what are carbohydrates. How does it relate to your lab? b. The learning objective(s) of the lab | 4 |
| Procedures | <ol style="list-style-type: none"> 1. A brief overview of what you did in the lab. <ol style="list-style-type: none"> a. It doesn't have to be verbatim to the lab procedures. Just a general outline. | 1 |
| Results & Data | <ol style="list-style-type: none"> 1. The results are your visual and sensory observations written in your lab notebooks and entered into the group excel file, pictures taken during lab 2. You will be required to perform the following statistical operations: ANOVA, mean, median, mode. You can calculate using excel or by hand if you prefer. You do need to show your work. 3. Presentation of the excel file into the report is required, and it must be neatly pasted into the report document and labeled. <ol style="list-style-type: none"> a. Unlabeled and improperly formatted tables will result in a zero for the section. | 6 |
| Discussion | <ol style="list-style-type: none"> 1. A subtitle for each experiment (e.g. Fudge Cooking Section, Grains Cooking Section) | 0 |
| | <ol style="list-style-type: none"> 2. Interpret and discuss the results from the experiment for this section. Were your results in alignment with others. Did something occur during your experiment that affected your results?—5 points for each section | 15 |
| Questions | <ol style="list-style-type: none"> 1. Answer the questions written in the lab handout by: <ol style="list-style-type: none"> a. Typing out the question b. Answering the question. 2. Use the lab data, lecture and lab material to answer the question. Additional research will be required to answer the questions. Additional research will be required to answer the questions. Only professional references are allowed. * See the library page on how to search for peer reviewed articles. | 18 |
| Conclusions | <ol style="list-style-type: none"> 1. Summarize the results of the lab. Use the literature to help explain why things happen. Does the data represent what you expect (yes/no). 2. What the lab has taught you about the Food Chemistry Subject 3. How you can apply it to the dietetic industry | 6 |
| References | A minimum of three references are required and need to be written in scientific journal format. They are to be listed in the order as they are presented in the report. *Please see library page | 3 |
| Extra credit | Extra credit for well written reports | 1 |
| Total report points [not including possible extra credit] | | 50 |

FORMAT FOR WRITING LABORATORY ASSIGNMENT

| ASSIGNMENT SECTION | SECTION DESCRIPTION | POINTS |
|--|--|-----------|
| Cover Page/File Name | Cover Page: Make sure it is properly centered. 4. Lab Number and title 5. Submission date 6. Your name E-file title for submission 4. Submission date 5. Lab Number & title 6. Your name E.G. 2-20-22 Lab 3 Carbohydrates S Passeretti There will be a 15 point penalty for not following these instructions | 0 |
| Results & Data | 4. The results are your visual and sensory observations written in your lab notebooks and entered into the group excel file, pictures taken during lab 5. You will be required to perform the following statistical operations: ANOVA, mean, median, mode. You can calculate using excel or by hand if you prefer. You do need to show your work. 6. Presentation of the excel file into the report is required, and it must be neatly pasted into the report document and labeled. a. Unlabeled and improperly formatted tables will result in a zero for the section. | 5 |
| Question Area | 3. A subtitle for each experiment (e.g. Fudge Cooking Section, Grains Cooking Section) | 0 |
| | 4. Answer the questions written in the lab handout by: a. Typing out the question b. Answering the question. 5. Use the lab data, lecture and lab material to answer the question. Additional research will be required to answer the questions. Only professional references are allowed. * See the library page on how to search for peer reviewed articles. | 18 |
| References | A minimum of three references are required and need to be written in scientific journal format. They are to be listed in the order as they are presented in the report. *Please see library page | 2 |
| Extra credit | Extra credit for well written assignments | 1 |
| Total report points [not including possible extra credit] | | 25 |

Experimental Foods Lab, FOS 4310L

Students Requiring Accommodations

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the [Disability Resource Center](#). 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.

Course Evaluation

Students are expected to provide feedback on the quality of instruction in this course by completing . Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students online .

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](#) 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.

Software Use

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

Student Privacy

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see the [Notification to Students of FERPA Rights](#).

Experimental Foods Lab, FOS 4310L

Campus Resources:

Health and Wellness

U Matter, We Care:

If you or a friend is in distress, please contact umatter@ufl.edu or 352 392-1575 so that a team member can reach out to the student.

Counseling and Wellness Center: , and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Sexual Assault Recovery Services (SARS)

Student Health Care Center, 392-1161.

University Police Department at 392-1111 (or 9-1-1 for emergencies), or .

Academic Resources

E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu.

Career Resource Center, Reitz Union, 392-1601. Career assistance and counseling.

Library Support, Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring.

Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers.

Student Complaints Campus

On-Line Students Complaints