

**American University of Beirut
Faculty of Agricultural and Food Sciences
Department of Nutrition and Food Sciences**

**Food Processing Laboratory
NFSC 289 (1 credit)
Spring 2017-2018**

Course Syllabus

Course Instructors

Basma Hamadeh

Room: FAFS Room 418

Office Hours: Monday 1:00 pm – 2:00 pm & Tuesday 10:00 am – 12:00 noon or by appointment

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Lab Sections

Time: Monday 10:00 am – 1:00 pm
 Monday 2:00 pm – 5:00 pm
 Tuesday 2:00 pm – 5:00 pm
 Wednesday 10:00 am – 1:00 pm

Location: FAFS Pilot Plant

Pre or Co-requisite

NFSC 287 and FSM III or ND III

Format

NFSC 289 consists of three-hour lab per week.

Course Description

NFSC 289 provides students with experience in common methods of food processing and preparation.

Course Objectives

- Understand the basic principles and techniques of food processing and preparation.
- Re-enforce the theoretical concepts covered in Food Science courses.
- Apply knowledge gained from this course in future research projects.
- Work cooperatively in a team approach.

Course Learning Outcomes and General Overview of the Course

Learning Outcomes	Teaching Strategy/Activities by which the CLO will be met	Assessment Method & Criteria for Evaluation	Corresponding Program Learning Outcome
Outline the procedures of processing and preparation of major food products	Lab lecture & lab manual	Final multiple choice exam & oral drop quizzes	Apply principles of food preservation, processing, engineering, and packaging; and can utilize these principles in process control
Conduct triangle sensory test	Lab lecture, lab instructions & lab manual	Weekly lab reports & Instructor's evaluation	
Prepare Arabic and European bread	Lab lecture, lab instructions & lab manual	Weekly lab reports & Instructor's evaluation	
Prepare full fat, low fat and zero fat Akkawi cheese	Lab lecture, lab instructions & lab manual	Weekly lab reports & Instructor's evaluation	
Prepare unfermented and fermented pickles	Lab lecture, lab instructions & lab manual	Weekly lab reports & Instructor's evaluation	
Prepare regular, spicy, reduced sugar and no salt tomato ketchup	Lab lecture, lab instructions & lab manual	Weekly lab reports & Instructor's evaluation	
Prepare jellies, marmalades, syrups and preserves	Lab lecture, lab instructions & lab manual	Weekly lab reports & Instructor's evaluation	
Prepare jams using natural and artificial sweeteners	Lab lecture, lab instructions & lab manual	Weekly lab reports & Instructor's evaluation	
Prepare food emulsions: mayonnaise and peanut butter	Lab lecture, lab instructions & lab manual	Weekly lab reports & Instructor's evaluation	
Give a presentation about the processing of assigned food products as part of a course final project	Lab lecture & lab manual	In-lab graded presentation	Synthesize information from different sources, in food science and management context and communicate the information orally and in writing
Work effectively as part of a group in the lab and in the project	Lab lecture & lab instructions	Instructor's evaluation	-
Analyze data with other group members for assessment and decision making	Lab lecture, lab instructions & lab manual	Weekly lab reports	-
Write weekly lab reports and a project report as part of a group	Lab lecture, lab instructions & lab manual	Weekly lab reports & project report	-

This course meets the following Foundation Knowledge and Competencies for the International Coordinated Program: CRD2.5 & KRD5.1

Student Evaluation

Final Exam	As scheduled by the Registrar office	35 %
Lab Reports	Weekly during the lab session	20 %
Project Presentation	As scheduled in course outline	15 %
Project Report	As scheduled in course outline	10 %
Oral Drop Quizzes	Weekly during the lab session	10 %
Attendance and Participation	-	10 %

Course Policies

- Abide by Safety Rules and Procedures included in your lab manual.
- Abide by Academic Integrity included in your AUB catalogue.
- **Accessible Education:** If a student has a documented special need and anticipates difficulties with the content or format of the course due to a physical or learning disability, he/she should contact the course instructor and/or his/her academic advisor, as well as the Counseling Center in the Office of Student Affairs (ext. 3196), as soon as possible to discuss options for accommodations. Those seeking accommodations must submit a Special Needs Support Request Form along with the required documentation.
- **Non-Discrimination – Title IX:** AUB is committed to facilitating a campus free of all forms of discrimination including sex/gender-based harassment prohibited by Title IX. The University's non-discrimination policy applies to, and protects, all students, faculty, and staff. If you think you have experienced discrimination or harassment, including sexual misconduct, we encourage you to tell someone promptly. If you speak to a faculty or staff member about an issue such as harassment, sexual violence, or discrimination, the information will be kept as private as possible, however, faculty and designated staff are required to bring it to the attention of the University's Title IX Coordinator. Faculty can refer you to fully confidential resources, and you can find information and contacts at www.aub.edu.lb/titleix. To report an incident, contact the University's Title IX Coordinator Trudi Hodges at 01-350000 ext. 2514, or titleix@aub.edu.lb. An anonymous report may be submitted online via EthicsPoint at www.aub.ethicspoint.com.

Moodle (E-Learning)

The following will be posted on Moodle:

- Course syllabus
- Lab safety rules and regulations
- Lab manual with a selected set of experiments designed for teaching purposes
- Topic sections include:
 - ✓ Lab lecture presentations
 - ✓ Date of experiments
 - ✓ Date of submission of lab reports
- Any changes that may occur during the semester regarding NFSC 289

Students are responsible for all what is posted on Moodle.

Attendance

- Attend lab section you are registered in. No shifting between sections during the semester.
- Attendance will be taken in every lab session.
- Unexcused absence from the lab will count as 40 for the lab report of that particular experiment.
- A missed laboratory session may be made up in another section only if a valid justification is submitted to the course instructor in advance or if an unexpected justifiable reason is verified.
- You are responsible for work done during your absence whether your absence is excused or un-excused.

Dress Code

- Wear your own lab gown at all times in the pilot plant. No lab gowns are available in the pilot plant for borrowing.
- Gloves, hairnets and overshoes are provided. Safety goggles and masks are available when needed.
- Tie back long hair.
- Wear shoes which cover and protect your feet completely.
- Students inappropriately dressed will be asked to leave the lab and will receive a grade of 40 for the lab report of that particular experiment.

Groups

- Lab groups: You will be working in a group of two or three members of your choice in all experiments throughout the semester.
- Project groups: You will be working in a group of two members of your choice in the survey of commercial food products project due the last two weeks of the semester.
- Distribution of lab groups and project groups will be done in the orientation session and posted on Moodle in the first week of the semester.

Experiments

- Read the experiments thoroughly before coming to the pilot plant.
- A lecture about the experiment to be conducted will be given in the pilot plant at the beginning of each lab session.
- Have your lab manual with you at all times in the pilot plant. 10 points will be deducted from the lab report grade of that particular experiment if you do not have a manual.
- Preparation of ingredients step must be completed before proceeding to any other step in the experiment.
- Record data of your group and other groups in data tables of Data Analysis section of each experiment.
- Prepare your food products to be evaluated. Place your products on the evaluation table to be evaluated by all class members.
- Maintain a clean workplace at all times during the lab session and before checking out. Food products must be disposed at the end of the lab session as directed. All jars/bottles must be cleaned after the evaluation step is completed. 10 points will be deducted from the lab report grade of that particular experiment if proper cleaning is not performed.
- In some labs you have to come the next day to finish the experiment.
- No cellphones are allowed during lab sessions. Switch off cellphones before lab session starts.

Lab Reports

- Submit one common report per group weekly using the following format:
 - ✓ Cover page
 - names
 - signatures of all group members
 - general experiment title
 - your group's experiment as subtitle
 - lab section
 - date of the experiment
 - ✓ Purpose of experiment
 - ✓ Data analysis showing sample calculation when applicable
 - ✓ Evaluation of food products prepared by all groups
 - ✓ Answers to questions
 - ✓ References used
- Submit lab report at the beginning of the following lab session. 10 points per day will be deducted from the late lab report grade of that particular experiment.

Survey of Commercial Food Products Project

- A project about the processing of two food products will be assigned to each project group and posted on Moodle the first week of the semester.
- Each group will submit a food identification report and give a power point presentation about the assigned food products during the last two weeks of the semester.
- The project outline and guidelines are on page 115.

Exams and Drop Quizzes

- Oral drop quizzes will be done at the beginning of each lab session about the experiment to be conducted. Late comers will take 40 on the drop quiz.
- The final exam is a multiple-choice type.
- No make-up exam will be given unless your absence is verified by a medical excuse from AUBMC.
- Calculators and pencils are needed in the final exam.
- No cellphones are allowed during the final exam. Switch off cellphones before the exam starts.

Course Outline

Date	Topic	Lab Report Due Date
January 29/30/31	1. Orientation in AUB Pilot Plant	-
February 5/6/7	2. Sensory Evaluation of Food Triangle Test	February 19/20/21
February 19/20/21	3. Preparation of Bread A. Arabic Bread B. European Bread	February 26/27/28
February 26/27/28	4. Preparation of Cheese A. Full Fat Akkawi Cheese B. Low Fat Akkawi Cheese C. Zero Fat Akkawi Cheese	March 5/6/7
March 5/6/7	5. Preparation of Pickles A. Unfermented Pickles B. Fermented Pickles	March 19/20/21
March 12/13/14	6. Preparation of Tomato Ketchup A. Regular Tomato Ketchup B. Spicy Tomato Ketchup C. Reduced Sugar Tomato Ketchup D. No Salt Tomato Ketchup	March 19/20/21
March 19/20/21	7. Preparation of Preserved Fruit Products I A. Jellies B. Marmalades C. Syrups D. Preserves	March 26/27/28
March 26/27/28	8. Preparation of Preserved Fruit Products II A. Jams with Natural Sweeteners B. Jams with Artificial Sweeteners	April 16/17/18
April 16/17/18	9. Preparation of Food Emulsions A. Mayonnaise B. Peanut Butter	April 23/24/25
April 23/24/25	10. Survey of Commercial Food Products Project	April 23/24/25
April 30 & May 2/8	10. Survey of Commercial Food Products Project	April 30 & May 2/8

Tentative dates