

Experimental Foods 11:709:489
Department of Nutritional Sciences, Rutgers University

Lectures:

Tuesday: 3:50-5:10 (Room 216 Davison Hall)

Thursday: 3:50-5:10 (Room 100 ARH)

Instructor: Salome P. Rao, Ph.D., MS, RDN, sprao@sebs.rutgers.edu, (210 Davison Hall, 220 IFNH)

Office Hours: By appointment and available after lecture/lab on most days.

Laboratory (Davison Hall, Rm 219A):

- Section 1: Thursday 10:20 am-1:20 pm
- Section 3: Wednesday 2:00-5:00 pm

Teaching Assistants: (*Office Hours TBD*)

Section 1 (Thursday): Sweta Suman ss4322@scarletmail.rutgers.edu

Section 2 (Wednesday): Yi-lin (Anna) Her yh966@scarletmail.rutgers.edu

Lab Coordinator: Melissa Keresztes, BS, NDTR: mp1254@sebs.rutgers.edu

*The best way to reach us is by email (always include "Experimental Foods" under Subject).
If you do not receive a response from us within 24hrs please contact us again. There may be no
or delayed response on weekends, so please don't wait for the last minute to start assignments.*

We expect that you will also reply to our emails within 24hrs, M-F 9-5.

*Readings will be posted on Canvas and it will be noted whether they are either required or
optional reading.*

Lab Manual:

PDF posted on Canvas, based on McWilliams, M. *Experimental Foods Laboratory Manual*
(9th ed), Upper Saddle River, NJ: Prentice Hall.

Pre-requisites:

11:709:202 LABORATORY FOR CULINARY NUTRITION and 01:960:401 BASIC STATISTICS FOR RESEARCH and 01:160:209
ELEMENT ORGANIC CHEM and 01:160:209 ELEMENT ORGANIC CHEM

OR

11:709:202 LABORATORY FOR CULINARY NUTRITION and 01:960:401 BASIC STATISTICS FOR RESEARCH and 01:160:308
ORGANIC CHEMISTRY and 01:160:308 ORGANIC CHEMISTRY

Course Objectives:

- Gain knowledge of the composition of foods and the relation of chemical and physical structure on components to their functional properties.

- Gain a more complete knowledge of the scientific principles upon which food preparation and processing are based.
- Become familiar with various methods to study foods, such as chemical, enzymatic, sensory and instrumental measurements.
- To integrate food science principles into real-world food science and nutritional issues.
- Learn how to design and carry out a controlled, scientific experiment.
- Analyze and report research data using statistical testing.
- Learn how to write a formal research paper and make use of graphics programs.
- To enhance students' ability to research and present evidence based research information.

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2022 Core Knowledge for the RDN (KRDN) – Standards for the Didactic Programs in Dietetics:

Rutgers University Department of Nutritional Sciences undergraduate Didactic Program in Dietetics is accredited by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) of the Academy of Nutrition and Dietetics (AND). The following ACEND Core Knowledge aptitudes are included within the curriculum of this course:

KRDN 1.1: Demonstrate how to locate, interpret, evaluate and use professional literature to make ethical, evidence-based practice decisions (i.e., Research Lab Project).

KRDN 1.3: Apply critical thinking skills (i.e., Research Lab Project).

KRDN 2.1 – Demonstrate effective and professional oral and written communication and documentation (i.e., Research Lab Project, Food Product Presentation)

KRDN 4.7: Evaluate data to be used in decision-making for continuous quality improvement (i.e., Research Lab Project analysis of data).

Course Policies:

1. Attendance at lectures and labs is mandatory. Attendance and participation during lecture and labs will affect final grades.
2. It is imperative to be prepared for Lab and complete Pre & Post lab assignments, as your own effort will also affect your peers' performance. Read the lab manual ahead and bring your lab coat, closed toe shoes.
3. All assignments must be typed, stapled together and contain appropriate spelling and grammar.
4. *Late assignments*-Assignments are expected to be on time. Any assignment received after the due date will be considered late. **Five percent (5%)** will be deducted for each

day the assignment is late. If you are unable to attend class due to medical or personal emergencies the day an assignment is due, the assignment can be emailed as an attachment *before* the end of the class period. Doctor's note is required to excuse any medical absences.

5. No makeup exams or labs will be scheduled without *prior* approval of instructor and written documentation of excuse. Lack of *prior* approval for an absence to a missed lab or exam will result in a **zero**.
6. Plagiarism of any kind is not tolerated at Rutgers and will result in course failure. Be careful not to copy phrases, sentences, and paragraphs from books, journals, electronic sources or previously submitted assignments.

Grading:

Assignment	Points
In Class Participation	100
Exams (4)	600 (150 ea)
Quizzes/Homework	100
Food Product Labelling Presentation	100
Laboratory (See Rubric)	800
Research Project Preparation (See Rubric)	100
Lab Project PPT presentation	100
Research Project Final Paper	100
TOTAL	2,000

Grades will be assigned as follows: A, B+, B, C+, C, D, F and cut-off ranges will be strictly followed. There will be no negotiating with assigned final grades.

- 93 - 100% = A
- 86 - 92.99% = B+
- 80 - 85.99% = B
- 75 - 79.99% = C+
- 70 - 74.99% = C
- 60 - 69.99% = D
- Below 59.99% = F

Tentative Schedule

For Assignments / Due Dates please [follow Canvas deadlines](#)

WEEK # & Dates	Lecture TOPIC (Tues + Thurs)	LAB (Weds + Thurs)
1 Sept 4-8	Introduction/Syllabus Today's Food Scene	No Labs
2 Sept 11-15	Lab Project Overview Labeling- Part 1	Lab 1: Lab Orientation & Intro to Experimentation
3 Sept 18-22	Objective Evaluation Research Perspectives	Lab 2: Objective Evaluation
4 Sept 25-29	Sensory Evaluation Labeling - Part 2	Lab 3: Sensory Evaluation
5 Oct 2-6	Intro to Food Science	Lab- Lab project preps, review homework
6 Oct 9-13	Proteins Dairy EXAM 1 due Friday <i>(Includes: Intro, Research, Objective, Sensory, Labeling)</i>	Lab 4: Gels & Foams (Dairy)
7 Oct 16-20	Eggs	Lab 5: Gels & Foams (Eggs)
8 Oct 23 - 27	Carbohydrates: Starches <i>Review Project and Write-Up</i>	Lab 6: Starches & Gums
Oct 30- Nov 3	Tues: EXAM 2 <i>(Includes: Intro Food Science, Dairy, Eggs)</i>	Lab Project PREP Week

	Carbohydrates: Simple CHO and Gums	
9 Nov 6-10	Fats & Oils	Lab Project Week
10 Nov 13-17	Baking Applications	Lab 7: Fats & Oils
11 Nov 20-24 Tues 21 (=Thu) Weds 22 (=Fri)	Tues - EXAM 3 <i>(Includes: CHOs, Gums, Fats/Oils)</i>	<i>No Labs- Happy Thanksgiving!</i>
12 Nov 27- Dec 1	Baking Applications <i>Thurs- Dr. Morin- GMOs</i>	Lab 8: Baking Applications
13 Dec 4-8	Food Processing	PPT Presentations
14 Dec 12	Tues: Additives	<i>No Labs</i> Lab Project Paper write-up due Dec 12 (on Canvas AND hard copy in lecture)
Dec 21 4-7 PM	Exam 4-Final <i>Baking Applications, Fruits & Vegetables, Processing, Additives, GMOs and "Cumulative"</i>	