

# Food Science

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**Grades:** 8-12  
**Prerequisites:** Middle School Science  
**Class Meetings:** Wednesdays, 9:00 AM - 10:30 AM  
**Length of Class:** 10 Weeks  
**Semester:** Spring 2022  
**Credit:** .5 Laboratory Science  
**Tuition:** \$250/student

**Class Dates:** Spring 2022 Semester

Week 1: March 30

Week 2: April 6

Week 3: April 13

No classes: Week of April 18 – 22 (Spring Break: Passover and Easter)

Week 4: April 27

No classes: Week of May 2 – 6 (Eid Al Fitr)

Week 5: May 11

Week 6: May 18

Week 7: May 25

Week 8: June 1

Week 9: June 8

Week 10: June 15

Make Up Week: June 22

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**Instructor's Name:** Helen Shere, MAT  
**Instructor's Email:** [shere.helen@gmail.com](mailto:shere.helen@gmail.com)  
**Instructor's Phone:** (216) 832-2567  
**Office Hours:** By Appointment

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**Description of Class:** The food we eat is chock-full of chemistry, biology, and other scientific concepts. We will use a hands-on, inquiry-based approach to explore the chemical composition of the food we eat.

**Class Approach:** Instructional strategies include modeling exercises, laboratory experiments, virtual labs, projects, class discussions, and problem-solving exercises.

**Goals:** At the end of this course, students will be able to

- Demonstrate specific knowledge about food biochemistry
- Explain the science behind multiple cooking modalities

**Textbook:** [Click link below for Amazon page](#)

The online textbook resource CK-12.org will be used for this course, along with excerpts from other texts in PDF downloads. All resources will be posted to Canvas for student access.

**Additional Supplies/Resources Needed:**

Students are expected to come to class prepared with a

- pencil
- ruler
- eraser
- a notebook
- loose-leaf and/or printer paper

Students should have a headset with microphone, a webcam, a computer and stable internet connection. Access to a printer is also required.

Required kitchen supplies include: a kitchen scale, immersion blender or food processor, knives, bowls, access to stovetop and oven.

Materials will be required for labs (will mostly be household materials and food items) and you will be notified about these materials 1-2 weeks prior to the lab via Canvas announcement.

It is recommended that parents supervise their children during labs. Please note that some labs will be completed only by the teacher, while the students observe.

**Requirements:**

Students are expected to take part in class discussions and demonstrate a knowledge of their weekly reading assignment completed beforehand.

**Weekly Homework:**

Weekly homework will be a combination of reading, writing, research, and questionnaires. Occasionally, short laboratory procedures will be part of the weekly homework as part of the inquiry-based framework of the course. Clear instructions (including video when needed) will be provided for these labs.

### Homework Policy:

Late assignments will be penalized 5% per day, for a maximum of 3 days. After 3 days, the student will not receive any marks for late homework. Late quizzes and exams will not be accepted.

If you will have an issue meeting a deadline, please contact me to discuss.

### Additional Policies:

Attendance is expected at all classes. Students are expected to be respectful to one another during class debates and discussions. Students must practice safe lab procedures during laboratory activities.

There will be a strict zero-tolerance policy in regard to plagiarism and cheating. "Cheating" is defined as unauthorized help on an examination or assigned course material. A student must not receive from any other student or give to any other student any information, answers, or help during an exam. "Plagiarism" is defined as the taking of a person's ideas, words, or information and claiming those properties as one's own. The use of all ideas, words, or information from any source must be properly referenced and due credit must be given to its author. All cheating and plagiarism infractions will result in a grade of "0" for the assignment.

### Evaluation:

In-Class Participation – 10%

Weekly Writing Assignments – 20%

Weekly Quizzes – 25%

Lab Reports – 20%

Final Project– 25%

### Grading Scale:

Percentages/Grades

100-90: A

89-80: B

79-70: C

69-60: D

59 – 0: No effort: F

### Anticipated Weekly Course Schedule:

<b>Week</b>	<b>Topic</b>
<b>Week 1</b>	Introduction, Lab Safety
<b>Week 2</b>	Biochemistry: Carbohydrates

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<b>Week 3</b>	Biochemistry: Proteins
<b>Week 4</b>	Biochemistry: Lipids and Emulsions
<b>Week 5</b>	Chemistry: pH and Properties of Water
<b>Week 6</b>	Biology: Physiology of Taste
<b>Week 7</b>	Biology: Enzymes
<b>Week 8</b>	Biology: Lactic Acid Fermentation
<b>Week 9</b>	Fermentation Labs
<b>Week 10</b>	Final Project

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