

Montclair High School

Course Syllabus

Department: Science

Course: Biochemistry of Food

Level: Academic, Honors by contract only

Credits: 2.5

Course Description:

This course introduces students to proper laboratory procedures and scientific methodology through cooking and the area of food science. During this course, students will explore topics in food science through class and lab activities. Students will come to have an understanding of the chemical make-up of food, where our food comes from, and the technology associated with our foods and the food supply. Careers in food science will also be investigated.

Standards:

HS-LS2-3, HS-LS2-5, HS-LS1-1, HS-LS1-5, HS-LS1-6, HS-LS1-7

Anchor Text(s):

Text Title	Publisher/Author	Year/Edition	ISBN	Text Distribution
Food Science The Biochemistry of Food and Nutrition	Glencoe McGraw Hill/Mehas/Rodgers	2006 (5th edition)	0-07-869081-1	Hard copy text available
Food For Today	Glencoe McGraw Hill/Mehas/Rodgers	2006 (9th edition)	0-07-861644-1	Hard copy text available

Supplementary Materials:

Educational videos, Internet activities, articles from journals, magazines and/or newspapers, etc.

Units of Study:

- Introduction to Food Science
- Laboratory and Food Safety
- Measurement
- Bacteriology and Pathology
- Sensory Evaluation of Food
- Food Chemistry
- Biochemical molecules
- Nutrition
- Food Preservation Technology
- Biotechnology

Proficiencies:

By the end of this course, students will:

- Explain contributions of food science to nutrition, food safety and technology
- Demonstrate techniques for working safely in a food science laboratory
- Use scientific method to solve problems
- Distinguish between metric units of measurement
- Compare temperatures on the Celsius and Fahrenheit temperature scales
- Identify and prevent foodborne pathogens
- Describe sensory characteristics that affect food preferences
- Explain the chemical reaction by which plants produce carbohydrates
- Describe the molecular structure of simple and complex carbohydrates
- Compare the structures of saturated and unsaturated fat
- Describe the chemical structure of protein
- Explain how amino acids link to form polypeptide bonds
- Explain the significance of essential amino acids and complete proteins
- Describe the different techniques for food preservation and packaging
- Describe areas and careers in the field of food science

Evaluation & Assessment:

- Projects, tests and quizzes 30%
- Cooking Labs 30%
- Classwork 40%

The Final Grade will consist of each marking period (45% each), and the final exam (10%).

Prior to beginning any lab activities, all students must have submitted a Safety Contract, which has been duly signed by both the student and their parent/guardian. This contract will be kept on file by the teacher for the duration of the course. In addition, all students must complete the food safety component and pass the required assessment.