

STATEWIDE COURSE SYLLABUS
Food Science and Dietetics 1

Instructor:

Teacher's Name:

Teacher Room Number:

Phone :

Fax:

Email:

Webpage:

Hours Available:

Career Cluster: Science, Technology, Engineering, and Mathematics

CIP Code: 190501

Course Number and Title: 5757 Food Science and Dietetics 1

Course Description:

Discover the science behind your favorite foods! How is root beer made? Are all additives bad? Will you get sick if you eat mold? These questions and more will be answered. Learn biology, chemistry, and physics as you investigate principles of food processing and food science. Topics to be covered include food safety and regulations, processing and preservation, product development, and nutritional content of various foods. The course places emphasis on hands-on lab activities and discussion. Integration of the Family and Consumer Sciences co-curricular student organization, Family, Career and Community Leaders of America (FCCLA), greatly enhances this course.

Grade Level:

Carnegie Units:

(Regulation 43-232: High School Credit - A school may award one unit of credit for an academic standards-based course that requires a minimum of 120 hours of instruction.)

Prerequisite: None

National Assessment/Credential:

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South Carolina State Standards and Indicators

Unit 1: Topic: **INTRODUCTION TO FOOD SCIENCE AND DIETETICS**

Amount of Time:

State Standard:

1. Identify the components of the scientific method.

Indicators:

1. Identify the steps in the scientific method.
2. Analyze a product employing the appropriate direct instruments.
3. Operate indirect instruments.
4. Demonstrate precision in technology.

Amount of Time:

State Standard:

2. Analyze the relationship between food science and dietetics.

Indicators:

1. Summarize the history of food science and dietetics.
2. Identify the major components of food science.
3. Explain the importance of dietetics and nutrition.

Amount of Time:

State Standard:

3. Investigate career paths within food science and dietetics.

Indicators:

1. Identify various career opportunities in food science and dietetics.
2. Explore the advantages of joining a professional organization.
3. Develop an employment portfolio.

Unit 2: Topic: **LABORATORY AND FOOD SAFETY**

Amount of Time:

State Standard:

1. Evaluate laboratory and food safety practices.

Indicators:

1. Incorporate safe use of lab equipment.

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2. Integrate safe lab techniques and procedures.
3. Implement sanitation practices in the lab.
4. Summarize information regarding food borne illnesses as a health issue for individuals, families, and the global community.
5. Analyze how OSHA, DHEC, and other governmental agencies' regulatory codes protect the nation's food supply.
6. Identify food codes relevant to specific laboratory practices.

Unit 3:Topic: ENERGY AND METABOLISM

Amount of Time:

State Standard:

1. Explore the types of energy used in the food industry.

Indicators:

1. Distinguish between the types of energy.
2. Differentiate the forms of energy used in the food industry.
3. Observe and critique how energy is transformed to another form of energy.

Unit 4:Topic: FOOD CHEMISTRY

Amount of Time:

State Standard:

1. Analyze the physical properties of matter and chemical reactions.

Indicators:

1. Identify the physical properties of matter.
2. Explain how atoms, molecules, and compounds relate to food items.
- 3a. Explain how phase changes are examples of reversible physical change.
- 3b. Describe how chemical changes are illustrated by chemical equations.

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Amount of Time:

State Standard:

2. Summarize the basic properties of foods.

Indicators:

1. Summarize the purposes and functions of carbohydrates, lipids, and proteins.
2. Explain the metabolic pathways and their chemical reactions.
3. Analyze relationships between food intake and body weight.
4. Summarize the properties and uses of water.
5. Identify the properties of vitamins and minerals in foods.
6. Summarize the purpose of acids and bases in food.
7. Justify the use of additives in foods.
8. Summarize enzyme reactions in the body and in food.

Unit 5: Topic: **FOOD PRODUCTION**

Amount of Time:

State Standard:

1. Analyze the correlation between food production, processing, packaging, and marketing in the food industry.

Indicators:

1. Explain the relationship between food production and processing.
2. Identify nonliving conditions that can affect microbial growth on foods.
3. Identify products with probiotics.
4. Identify packaging and marketing strategies (i.e. sugar coated cereals that are placed at a child's eye level in the grocery store).
5. Explore sensory evaluation.
6. Incorporate the metric system of measurement in laboratory procedures.
7. Identify the different types of preservatives and their role in food-processing.
8. Explain how the different types of packing protect food.
9. Compare and contrast hot and cold processing.
10. Research the changes of products and processing over time.

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Course Outline

	Unit/Lesson	Textbook Chapter		Unit/Lesson	Textbook Chapter
Week 1			Week 10		
Week 2			Week 11		
Week 3			Week 12		
Week 4			Week 13		
Week 5			Week 14		
Week 6			Week 15		
Week 7			Week 16		
Week 8			Week 17		
Week 9			Week 18		

Academic Alignments:

Course content is aligned with the following academic subject areas:

English Language Arts	Health and Safety Education	Technology
Earth Science	Elementary Algebra	Physics
Economics	Geometry	Biology
Chemistry	Intermediate Algebra	Data Analysis
U. S. History	Precalculus	U. S. Government
Physical Science		

Textbook(s):

Evaluation and Grading:

1. Grading System:

2. Grading Scale:

A = 100 - 93
 B = 92 - 85
 C = 84 - 77
 D = 76 - 70
 F = 69 - below

Make-up Policy and Extra Help:

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Supplies Needed:

Classroom Expectations:

Classroom Procedures:

Collaborative Partnerships:

Advisory Council: The advisory council meets two times per year, once during the fall semester and once during the spring semester. All parents are invited to join our advisory council. Please contact me if you are interested.

Business/Community Connections: Businesses and community representatives are invited to serve on our advisory council. We encourage our local businesses and community representatives to provide speakers, field trip opportunities, donations, and other resources to support students in the school to work transition.

Dual Credit/Articulation Opportunities (Transition Strategies for Middle School):

Service Learning Projects:

Extended Learning Opportunities:

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21st Century Skills

http://www.p21.org/index.php?option=com_content&task=view&id=254&Itemid=120

The elements listed below are 21st Century Student Outcomes representing skills, knowledge and expertise students should master to succeed in work and life in the 21st century. These elements are incorporated throughout the course content.

<p>1. Core Subjects and 21st Century Themes</p> <ul style="list-style-type: none"> • English, Reading or Language Arts • World Languages • Arts • Mathematics • Economics • Science • Geography • History • Government and Civics 	<p>Learning and Innovation Skills</p> <ul style="list-style-type: none"> • Creativity and Innovation Think Creatively Work Creatively with Others Implement Innovations • Critical Thinking and Problem Solving Reason Effectively Use Systems Thinking Make Judgments and Decisions Solve Problems • Communication and Collaboration Communicate Clearly Collaborate with Others
<p>Information, Media and Technology Skills</p> <ul style="list-style-type: none"> • Information Literacy Access and Evaluate Information Use and Manage Information • Media Literacy Analyze Media Create Media Products • ICT Literacy Apply Technology Effectively 	<p>Life and Career Skills</p> <ul style="list-style-type: none"> • Flexibility and Adaptability Adapt to Change Be Flexible • Initiative and Self-Direction Manage Goals and Time Work Independently Be Self-directed Learners • Social and Cross-Cultural Skills Interact Effectively with Others Work Effectively in Diverse Teams • Productivity and Accountability Manage Projects Produce Results • Leadership and Responsibility Guide and Lead Others Be Responsible to Others

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CHECKLIST

Please check each item you have read and understand:

Syllabus Categories	Parent	Student
Course Description		
Unit Topics/Course Standards/Indicators		
National Assessments		
Course Outline		
Academic Alignments		
Textbook		
Evaluation and Grading		
Make-up Policy and Extra Help		
Supplies Needed		
Classroom Expectations		
Classroom Procedures		
Collaborative Partnerships		
Dual Credit and Articulation Opportunities		
Service Learning Projects		
Extended Learning Opportunities		
21 st Century Skills		

Please refer to contact information on the first page if you have any questions. Your signature below verifies that you have read, understand, and agree with the contents of this syllabus.

Student Signature: _____ Date: _____
 Student Printed Name: _____
 Parent Signature: _____ Date: _____
 Parent Printed Name: _____