

A. EFFECTIVE DATE OF OUTLINE

Spring Semester 2014. To be reviewed annually.

B. CATALOG DESCRIPTION

1. FSCI 2100
2. Introduction to Food Science
3. 3 Credits. One two-hour lecture per week and one two-hour lab per week.
4. Spring Semester
5. Prerequisite: CHEM 1062 Principles of Chemistry 2
6. Introduction to the composition and the chemical and physical properties of foods and the interaction, reaction, and evaluation of foods due to formulation, processing and preparation.

C. RECOMMENDED ENTRY SKILLS/KNOWLEDGE

The student should have an understanding of physical changes, basic nutrition, chemical reactions, stoichiometry, chemical bonding, kinetics, chemical equilibrium, acid-base chemistry, thermodynamics, and laboratory practice.

D. OUTLINE OF MAJOR CONTENT AREAS (TOPICS)

1. Carbohydrates
2. Fats
3. Proteins
4. Enzymes
5. Fruits and vegetables
6. Meat
7. Milk and eggs
8. Emulsions
9. Dough and leavening
10. Batters
11. Evaluating and modifying recipes
12. Gluten development
13. Cereals & starches
14. Food measuring techniques

E. LEARNING OUTCOMES

Upon successful completion of FSCN 2100, students will be able to:

1. Define a wide variety of vocabulary used in food science.
2. Explain the scientific basis for a wide variety of common observations in foods.
3. Identify changes in food resulting from food preparation and processing procedures and explain these changes based on knowledge of reactions and interactions of the chemical constituents of the food product.
4. Explain the functions of major food ingredients in a variety of food systems.
5. Evaluate the quality of food products using sensory descriptors and objective methods of analysis.
6. Produce changes and explain the chemical and physical basis for differences in food quality resulting from variations in preparation and/or ingredients.
7. Demonstrate safe and sanitary food preparation procedures.
8. Demonstrate the use of a wide variety of culinary techniques.
9. Modify recipes to make them suitable for specific diets.
10. Work purposefully with others to enhance learning.

F. METHODS USED FOR EVALUATION OF STUDENT LEARNING

The instructor will choose from among various classroom and laboratory evaluation techniques including – but not limited to – in-class testing, take-home testing, laboratory notebook evaluation, assignments, quizzes, attendance, group or individual projects, peer evaluation and research. The instructor will also choose a method for end-of-the-semester evaluation.