

Course Number and Title: SCI 141 Nutrition in the Culinary Field

Campus Location:

Dover, Stanton

Effective Date:

2021-52

Prerequisite:

SSC 100 or concurrent

Co-Requisites:

none

Course Credits and Hours:

2.00 credits

2.00 lecture hours/week

0.00 lab hours/week

Course Description:

This course covers nutritional principles necessary to evaluate and modify menus and recipes for healthy menu planning and development.

Required Text(s):

Obtain current textbook information by viewing the [campus bookstore - https://www.dtcc.edu/bookstores](https://www.dtcc.edu/bookstores) online or visit a campus bookstore. Check your course schedule for the course number and section.

Additional Materials:

None

Schedule Type:

Classroom Course

Hybrid Course

Online Course

Disclaimer:

None

Core Course Performance Objectives (CCPOs):

1. Evaluate factors that influence food selection for a menu. (CCC 1, 2, 5, 6; PGC 5)
2. Identify the characteristics of a healthy diet. (CCC 1, 2, 5; PGC 5)
3. Describe how carbohydrates, lipids (fats), proteins, vitamins, and minerals affect an individual's nutritional status. (CCC 1, 2, 5; PGC 5)
4. Examine factors that affect weight. (CCC 1, 2, 6; PGC 5)
5. Discuss how nutrition and fitness are interrelated. (CCC 1, 2, 7; PGC 5)
6. Identify appropriate nutrition requirements throughout the lifespan. (CCC 1, 2, 6; PGC 5)
7. Describe how food safety and illness prevention are interrelated. (CCC 1, 2, 5, 6; PGC 5)
8. Analyze the concepts of a healthy nutritional recipe and menu planning. (CCC 1, 2, 5, 6; PGC 5)

See Core Curriculum Competencies and Program Graduate Competencies at the end of the syllabus. CCPOs are linked to every competency they develop.

Measurable Performance Objectives (MPOs):

Upon completion of this course, the student will:

1. Evaluate factors that influence food selection for a menu.
 1. Explain basic nutrition concepts.
 2. Discuss healthy fast food choices.
 3. Distinguish between nutrition fact and fiction.
 4. Discuss sustainable purchasing initiatives.
2. Identify the characteristics of a healthy diet.
 1. Define *essential nutrient*, *organic nutrient*, and *energy-yielding nutrient*.
 2. Define and explain recommended dietary allowance (RDA).
 3. Compare various government guidelines to achieve a healthy diet.
 4. Discuss the five food groups and MyPlate.
 5. Discuss food labeling and current United States laws.
3. Describe how carbohydrates, lipids (fats), proteins, vitamins, and minerals affect an individual's nutritional status.
 1. List the various functions and food sources of carbohydrates.
 2. Define *simple carbohydrates*, *complex carbohydrates*, and *dietary fiber*.
 3. Explain and differentiate among various sugar substitutes - nutritive and nonnutritive.
 4. Discuss the role of carbohydrates in the prevention of dental caries, arteriosclerosis, obesity, and cancer.
 5. Discuss the digestion of carbohydrates.
 6. Compare and contrast insulin-dependent and non-insulin-dependent diabetes mellitus.

7. Define *hypoglycemia* and *hyperglycemia*.
 8. Discuss ways to increase fiber content in the diet.
 9. Define the types of fatty acids: saturated, polyunsaturated, monounsaturated, and essential.
 10. List the functions of lipids in the body, and list their dietary sources.
 11. Differentiate among characteristics of common cooking oils.
 12. List and explain fat substitutes available on the market.
 13. Explain the digestion of fats.
 14. Discuss good versus bad cholesterol.
 15. Discuss the relationship between heart disease and fat and cholesterol in the diet.
 16. List ways to reduce the fat and cholesterol content in a recipe.
 17. Discuss essential and non-essential amino acids, complete and incomplete proteins, and enzymes.
 18. List at least four functions of proteins in the body.
 19. List the RDAs of protein for adults and children.
 20. Compare and contrast kwashiorkor and marasmus.
 21. List the principles of complementing proteins in vegetarian diets.
 22. Define and differentiate between fat soluble and water-soluble vitamins.
 23. For each of the following vitamins, list its chief function, major food sources, and symptoms characteristic of deficiency or excess: thiamin, riboflavin, C, A, D, E, and K.
 24. Discuss tips to preserve vitamins while cooking.
 25. For each of the following minerals, list its chief function, major food sources and symptoms characteristic of deficiency or excess: calcium, iron, phosphorous, sodium, potassium, zinc, fluoride, and selenium.
 26. Discuss the role of sodium in blood pressure control.
 27. Discuss the possible link between selected vitamins and minerals in cancer prevention.
4. Examine factors that affect weight.
 1. Discuss methods used to determine body fat.
 2. Demonstrate how to calculate healthy weight and energy expenditure.
 3. Define *basal metabolic rate* (BMR), *voluntary activities*, *very low calorie diets*, *behavior modification*, and *yo-yo dieting*.
 4. Discuss the theories regarding the causes of obesity.
 5. Explain what happens metabolically when a person fasts and/or follows a low carbohydrate diet.
 6. Define *anorexia* and *bulimia*, and discuss treatment.
 5. Discuss how nutrition and fitness are interrelated.
 1. Define the components of fitness, strength, flexibility, muscle, and cardiovascular endurance.
 2. Differentiate between aerobic and anaerobic exercise and the fuels used for each.
 3. List and explain the role of protein, carbohydrates, iron, and B vitamins in fitness.
 4. Describe a diet best suited for a person who exercises.
 6. Identify appropriate nutrition requirements throughout the lifespan.
 1. Discuss nutritional needs during pregnancy and lactation.
 2. Explain the recommended pattern of weight gain in a healthy pregnancy.
 3. Compare and contrast breast milk versus formula.
 4. List common concerns and recommended supplements in infant feeding.
 5. Discuss factors that influence the nutrition of children and adolescents.
 6. Discuss the role of nutrition in the prevention of chronic disease.
 7. List common nutrient deficiencies in the elderly, and explain why they exist.
 7. Describe how food safety and illness prevention are interrelated.
 1. Discuss the agents that cause foodborne illnesses and preventative measures.
 2. Describe the food chain.
 3. List the duties of the government agencies responsible for food safety in the United States.
 4. Define *generally recognized as safe* (GRAS), *color additives*, and *prohibited substances*.
 5. Discuss concerns regarding the future of our food supply and new techniques in food engineering and technology.
 8. Analyze the concepts of a healthy nutritional recipe and menu planning.
 1. Describe a variety of healthful menus.
 2. Design a variety of multi-course healthy menus to include low fat, low cholesterol, and low sodium items.
 3. Describe how to alter an existing menu to make it healthier.

Evaluation Criteria/Policies:

The grade will be determined using the Delaware Tech grading system:

90	-	100	=	A
80	-	89	=	B
70	-	79	=	C
0	-	69	=	F

Students should refer to the [Student Handbook - https://www.dtcc.edu/handbook](https://www.dtcc.edu/handbook) for information on the Academic Standing Policy, the Academic Integrity Policy, Student Rights and Responsibilities, and other policies relevant to their academic progress.

Final Course Grade:

Calculated using the following weighted average

Evaluation Measure	Percentage of final grade
Formative: Quizzes (4-12) (equally weighted)	20%
Summative: Tests (4-6) (equally weighted)	50%
Formative: Assignments (4-12) (equally weighted)	30%
TOTAL	100%

Core Curriculum Competencies (CCCs are the competencies every graduate will develop):

1. Apply clear and effective communication skills.
2. Use critical thinking to solve problems.
3. Collaborate to achieve a common goal.
4. Demonstrate professional and ethical conduct.
5. Use information literacy for effective vocational and/or academic research.
6. Apply quantitative reasoning and/or scientific inquiry to solve practical problems.

Program Graduate Competencies (PGCs are the competencies every graduate will develop specific to his or her major):

None

Disabilities Support Statement:

The College is committed to providing reasonable accommodations for students with disabilities. Students are encouraged to schedule an appointment with the campus Disabilities Support Counselor to request an accommodation needed due to a disability. A listing of campus Disabilities Support Counselors and contact information can be found at the [disabilities services - https://www.dtcc.edu/disabilitysupport](https://www.dtcc.edu/disabilitysupport) web page or visit the campus Advising Center.