

Technical College of the Lowcountry
921 Ribaut Road
Beaufort, SC 29901

Candice Chastain
Business Technologies
Building 14, Room 118
Phone: 843.525.8278
cchastain@tcl.edu



CUL 103 NUTRITION

COURSE DESCRIPTION

This course is a study of general nutritional needs of the life cycle, including carbohydrates, proteins, fats, vitamins, and minerals. Practical applications of the food service professional are emphasized.

3 Credits (3 lect/pres, 0 lab, 0 other)

COURSE FOCUS

The focus of this course is to instruct students in nutrimental needs throughout the life cycle. The course includes practical application for food service professionals.

TEXT AND REFERENCES

Whitney and Rolfes. Understanding Nutrition. 14th Edition. Cengage Publishing
ISBN: 978-1-285-87434-0 book
or, 978-1-305-55325-5 ebook

COURSE GOALS

The following list of course goals will be addressed in the course. These goals are directly related to the performance objectives. (*designates a CRUCIAL goal)

- Describe how various factors influence personal food choices.
- Name the six major classes of nutrients and identify which are organic and which yield energy.
- Explain the scientific method and how scientists use various types of research studies and methods to acquire nutrition information.
- Define the four categories of the DRI and explain their purposes.
- Explain how the four assessment methods are used to detect energy and nutrient deficiencies and excesses.
- Identify several risk factors and explain their relationships to chronic diseases.
- Explain how each of the diet-planning principles can be used to plan a healthy diet.
- Identify foods that have a high nutrient density.
- Compare and contrast the information on food labels to make selections that meet specific dietary and health goals.

- Identify the information required on the food label.
- Identify the information required on the Nutrition Facts panel and calculate percent Daily Values.
- Recognize reliable health claims on food labels.
- Explain how foods move through the digestive system, describing the actions of the organs, muscles, and digestive secretions along the way.
- Explain how nutrients are routed in the circulatory systems from the GI tract into the body and identify which nutrients enter the blood directly and which must first enter the lymph.
- Describe how bacteria, hormones, and nerves influence the health and activities of the GI tract.
- Summarize carbohydrate digestion and absorption.
- Explain how the body maintains its blood glucose concentration and what happens when blood glucose rises too high or falls too low.
- Describe how added sugars can contribute to health problems.
- Identify the health benefits of, and recommendations for, starches and fibers.
- Summarize the key scientific evidence behind some of the current controversies surrounding carbohydrates and their kcalories.
- Describe the chemistry, food sources, and roles of phospholipids and sterols.
- Summarize fat digestion, absorption, and transport.
- Outline the major roles of fats in the body, including a discussion of essential fatty acids and the omega fatty acids.
- Explain the relationships among saturated fat, *trans* fat, and cholesterol and chronic diseases, noting recommendations.
- Explain the relationships between monounsaturated and polyunsaturated fats and health, noting recommendations.
- Identify which fats support health and which impair it.
- Summarize protein digestion and absorption.
- Describe how the body makes proteins and uses them to perform various roles.
- Explain the differences between high-quality and low-quality proteins, including notable food sources of each.
- Identify the health benefits of, and recommendations for, protein.
- Discuss the health risks of protein and amino acid supplements.
- Explain how nutrients influence gene activity (nutrigenomics) and how genes influence the activities of nutrients (nutrigenetics).
- Identify the nutrients involved in energy metabolism and the high-energy compound that captures the energy released during their breakdown.
- Discuss the chemical reactions that occur within the body, including metabolism, anabolism, and catabolism.
- Summarize the main steps in the energy metabolism of glucose, glycerol, fatty acids, and amino acids.
- Describe how carbohydrates, proteins, and fats are used to meet the energy needs of the body.
- Explain the process of glycolysis. Explain the process of deamination and the synthesis of non-essential amino acids.
- Discuss the TCA cycle and the electron transport chain.
- Explain how an excess of any of the three energy-yielding nutrients contributes to body fat and how an inadequate intake of any of them shifts metabolism.
- Describe how alcohol disrupts metabolism and impairs health.
- Describe energy balance and the consequences of not being in balance.
- Discuss some of the physical, emotional, and environmental influences on food intake.
- Explain the basal metabolic rate and the factors that affect it.
- Discuss the role of physical activity in balancing the energy budget.
- Distinguish between body weight and body composition, including methods to assess each.
- Define healthy body weight.
- Identify relationships between body weight and chronic diseases.

- Discuss the health risks for overweight, including heart disease, diabetes, and cancer.
- Describe how body fat develops and why it can be difficult to maintain weight gains and losses.
- Define overweight and obesity using the body mass index.
- Review some of the causes of obesity.
- Discuss the physical, social, and psychological consequences of overweight and obesity.
- Outline reasonable strategies for achieving and maintaining a healthy body weight.
- List diet planning strategies for successful weight loss.
- Summarize strategies for gaining weight.
- Explain weight-grain strategies.
- Contrast the differences between popular fad diets and weight-loss diets based on sound nutrition.
- Describe how vitamins differ from the energy nutrients and how fat-soluble vitamins differ from water-soluble vitamins.
- Identify the main roles, deficiency symptoms, and food sources for each of the B vitamins.
- Identify the main roles, deficiency symptoms, and food sources for vitamin A.
- Describe how antioxidants defend against free radicals that contribute to diseases.
- Explain how the body regulates fluid balance.
- List some of the ways minerals differ from vitamins and other nutrients.
- Explain how the body regulates fluid balance.
- List some of the ways minerals differ from vitamins and other nutrients.
- Identify the main roles, deficiency symptoms, and food sources for each of the major minerals (sodium, chloride, potassium, calcium, phosphorus, magnesium, and sulfate).
- Describe the health benefits of being physically fit and explain how to develop the components of fitness.
- Describe the role nutrition plays in longevity.
- Describe how foodborne illnesses can be prevented.
- Explain how to minimize nutrient losses in the kitchen.
- Explain how environmental contaminants get into foods and how people can protect themselves against contamination.
- Discuss the guidelines for consumers
- Discuss the health hazards associated with pesticides, pesticide monitoring techniques, and the risks and benefits of organic foods.
- List common food additives, their purposes, and examples.
- Differentiate between intentional and indirect food additives.
- Discuss consumer concerns about water.
- Describe sources of drinking water, harmful contaminants, and methods to ensure water safety.
- Debate the pros and cons surrounding genetically engineered foods

STUDENT CONTRIBUTION

Each student will spend at least 6 hours per week preparing for class. Attendance is critical in this class and participation in class discussions greatly enhances the learning experience for all students.

COURSE EVALUATION

Your grade will be based on the percentage of point's earned/the total number of points possible.

The grading scale for this course is as follows:

90-100=A

80-89=B

70-79=C

60-69=D

0-59=F

*The Instructor reserves the right to modify the number of assignments and/or point totals as needed. The grade scale will not be modified.

COURSE SCHEDULE

The online course material will be posted weekly. It is the student's responsibility to check Blackboard for new assignments, exams and projects. Please pay attention to assignment deadlines. Late work will not be accepted. Please see Blackboard for the schedule of coursework and assignment deadlines.

Approved by: Kenneth Flick Developed/Revised: 11/04/2015

Ken Flick, Division Dean for Business/Industrial Division

ADA STATEMENT

The Technical College of the Lowcountry provides access, equal opportunity and reasonable accommodation in its services, programs, activities, education and employment for individuals with disabilities. To request disability accommodation, contact the counselor for students with disabilities at (843) 525-8228 during the first ten business days of the academic term.

ACADEMIC MISCONDUCT

There is no tolerance at TCL for academic dishonesty and misconduct. The College expects all students to conduct themselves with dignity and to maintain high standards of responsible citizenship.

It is the student's responsibility to address any questions regarding what might constitute academic misconduct to the course instructor for further clarification.

The College adheres to the Student Code for the South Carolina Technical College System. Copies of the Student Code and Grievance Procedure are provided in the *TCL Student Handbook*, the Division Office, and the Learning Resources Center.

ATTENDANCE

The College's statement of policy indicates that students must attend ninety percent of total class hours or they will be in violation of the attendance policy.

- Students not physically attending class during the first ten calendar days from the start of the semester must be dropped from the class for NOT ATTENDING.
- Students taking an online/internet class must sign in **and** communicate with the instructor within the first ten calendar days from the start of the semester to indicate attendance in the class. Students not attending class during the first ten calendar days from the start of the semester must be dropped from the class for NOT ATTENDING.
- Reinstatement requires the signature of the division dean.

In the event it becomes necessary for a student to withdraw from the course **OR if a student stops attending class, it is the student's responsibility to initiate and complete the necessary paperwork.** Withdrawing from class may have consequences associated with financial aid and time to completion.

When a student exceeds the allowed absences, the student is in violation of the attendance policy. The instructor **MUST** withdraw the student with a grade of "W", "WP", or "WF" depending on the date the student exceeded the allowed absences and the student's progress up to the last date of attendance

or

under extenuating circumstances and at the discretion of the faculty member teaching the class, allow the student to continue in the class and make-up the work. This exception must be documented at the time the allowed absences are exceeded.

Absences are counted from the first day of class. There are no "excused" absences. All absences are counted, regardless of the reason for the absence.

- A student must take the final exam or be excused from the final exam in order to earn a non-withdrawal grade.

A copy of TCL's **STATEMENT OF POLICY NUMBER: 3-1-307 CLASS ATTENDANCE (WITHDRAWAL)** is on file in the Division Office and in the Learning Resources Center.

HAZARDOUS WEATHER

In case weather conditions are so severe that operation of the College may clearly pose a hardship on students and staff traveling to the College, notification of closing will be made through the following radio and television stations: WYKZ 98.7, WGCO 98.3, WGZO 103.1, WFXH 106.1, WWVV 106.9, WLOW 107.9, WGZR 104.9, WFXH 1130 AM, WLVH 101.1, WSOK 1230 AM, WAEV 97.3, WTOC TV, WTGS TV, WJWJ TV, and WSAV TV. Students, faculty and staff are highly encouraged to opt in to the Emergency Text Message Alert System. www.tcl.edu/textalert.asp

EMERGENCY TEXT MESSAGE ALERT

Students, faculty and staff are highly encouraged to opt in to the Emergency Text Message Alert System. Participants receive immediate notification of emergency events and weather cancelations via text messaging on their cell phones. Participants can also opt in to receive non-emergency news and announcements. Go to www.tcl.edu. On the homepage, click on “emergency TextAlert at TCL” and fill out the form or go to www.tcl.edu/textalert.asp

SYLLABUS SAFETY ADDENDUM

Purpose

The purpose of this safety addendum is to provide each student with safety guidelines during an incident, emergency, or disaster at TCL. In addition, it provides students guidelines for lockdown procedures, evacuation procedures, and active shooter.

Definition

An incident is any event, potential or actual, that may impact normal operations but has no immediate health or life threatening consideration or serious effect on the overall functional capacity of the College. An event of this nature should be reported to the Office of the Vice President for Administrative Services. Also notify the off-site campus administrator if applicable.

An emergency is any incident, potential or actual, which may endanger life or health or which affects an entire building or buildings, and will disrupt the overall operations of the College. Outside emergency services will probably be required, as well as major efforts from campus support services. Major policy considerations and decisions will usually be required from the college administration during times of crises. An emergency should be reported immediately by directly using **911** if life or health/injury considerations exist and then to the Office of the President or Vice President for Administrative Services as quickly as possible. Also notify the off-site campus administrator if applicable.

A disaster is any event or occurrence that has taken place and has seriously impaired or halted the operations of the College. In some cases, mass personnel casualties and severe property damage may be sustained. A coordinated effort of all campus-wide resources is required to effectively control the situation. Outside emergency services will be essential. In all cases of disaster, an Emergency Control Center will be activated, and the appropriate support and operational plans will be executed. The disaster should be immediately reported, first by calling **911** and then to the Office of the President or Vice President for Administrative Services. Also notify the off-site campus administrator if applicable.

Types of Emergencies

- Hurricane
- Tornado
- Fire
- Biochemical or Radiation Spill
- Explosion/Bomb
- Downed Aircraft (crash which directly impacts campus operations)
- Utility Failures
- Violent or criminal behavior
- Psychological Crisis

Procedures

Active Shooter

Run/hide/fight (<http://www.fbi.gov/about-us/cirg/active-shooter-and-mass-casualty-incidents/run-hide-fight-video>)

Building Evacuation

1. Building evacuations occur when an alarm sounds and/or upon notification by Security or the Emergency Director.
2. When the building evacuation alarm is activated during an emergency, individuals should exit according to the building evacuation plan and alert others to do the same.
3. Once outside, individuals should proceed to a clear area that is at least 500 feet away from the affected building. Streets, fire lanes, hydrant areas and walkways should be kept clear for emergency vehicles and personnel.
4. Individuals should not return to an evacuated building unless told to do so by Security or the Emergency Director.
5. Individuals should assist persons with disabilities in exiting the building. Elevators are reserved for disabled persons

Campus Evacuation

1. A uniformed Security Guard, the Emergency Director, or an Emergency Resource Team member will announce evacuation of all or part of the campus grounds.
2. All persons (students and staff) are to immediately vacate the campus, or in the case of a partial evacuation relocate to another part of the campus grounds as directed.

Lockdown

1. Clear the halls
2. Report to the nearest classroom/office
3. Assist those needing special assistance
4. Ensure classroom/office doors are closed and locked
5. Turn off lights
6. Stay away from doors and windows (out of the line of sight)
7. BE QUIET and follow instructor's directions
8. Silence cell phones
9. Wait for the "All Clear" before leaving