CULA 210.01: Nutritional Cooking

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CULA 210—Nutritional Cooking

DATE REVISED: Spring 2015

SEMESTER CREDITS: 3

PREREQUISITES: CULA 101 and CULA 105, or consent of the instructor

FACULTY: Aimee Elliott, CCC
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Phone: 243-7880 (office), 243-7815 (kitchen)
Office: GH5
Office Hours: Mondays, 2pm – 3pm; or by appointment

COURSE DESCRIPTION: To introduce a hands-on approach to principles of healthy and nutritious culinary procedures. Adjustment of classic methods to suit preparations designed to extend variety on “lighter” menus. To describe the characteristics, functions, and food sources of the major nutrients and how to maximize nutrient retention in food preparation and storage. To apply the principles of nutrient needs throughout the life cycle to menu planning and food preparation.

STUDENT PERFORMANCE OUTCOMES:

Occupational Performance Objectives

Upon completion of this course, the student will be able to:

1. List the major food groups and understand portion size and control for each group. List the macronutrients contributed by each of the food groups.
2. Discuss the current dietary guidelines and adapt recipes accordingly.
3. Evaluate diets in terms of the recommended dietary allowances.
4. List the primary functions and best sources of each of the major vitamins and minerals.
5. Describe the process of human digestion.
6. Calculate energy needs based upon basal metabolic rate and exercise expenditure.
7. Select ingredients with care to design menus emphasizing high-quality, fresh, seasonal ingredients.
8. Store and prepare foods to ensure best flavor, texture, color and nutritional value.
9. Categorize foods into exchange groups and plan menus applying the exchange system.
10. Incorporate a variety of plant-based dishes emphasizing grains, legumes, and fruits.
11. Identify common food allergies and determine appropriate substitutions.
12. Manage the amount of fat used as an ingredient and in preparation.
13. Discuss contemporary nutritional issues such as vegetarianism, heart healthy menus and religious dietary laws.
14. Demonstrate a variety of seasonings, preparation methods, and cooking techniques to reduce reliance on salt.
STUDENT PERFORMANCE ASSESSMENT METHODS AND GRADING PROCEDURES: 
Production and Testing

1. Students will be required to demonstrate daily production assignments requiring pre-
planning of methodology and recipes. Recipes must be read and understood by the 
student before attending class. Students will be evaluated on teamwork, professionalism, 
mise en place, production guide/timelines, plating diagrams, quality of finished product, 
sanitation and organizational skills. All assignments, projects and tests will be assigned 
point values. It is the responsibility of the student to obtain quiz and production 
competency scores.

2. The quiz schedule and dates are included in the weekly schedule posted in introductory 
content area of Moodle shell. Quizzes will be written and given during class time. 
Grading will take place immediately after the quiz is complete. Makeup for a missed test 
is not offered unless faculty is notified and guidelines are identified for the individual 
situation before each test. Students may be able to make up a missed test for 
emergency situations such as sickness or required work activities, but must submit 
documented excused absences such as a Doctor note identifying excused dates or 
mandatory work related travel dates in a timely manner.

3. It will be the student's responsibility to complete the assigned competencies.

Grading Scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>90 - 100</td>
<td>A</td>
</tr>
<tr>
<td>80 - 89</td>
<td>B</td>
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<tr>
<td>70 - 79</td>
<td>C</td>
</tr>
<tr>
<td>60 - 69</td>
<td>D</td>
</tr>
</tbody>
</table>

Evaluation Criteria:

- Quizzes: 15 percent
- Notebook: 10 percent
- Projects: 25 percent
- Sanitation: 5 percent
- Competencies: 20 percent
- Practical Exams: 20 percent
- Final Exam: 10 percent

Total: 100 pts

ATTENDANCE POLICY:

Attendance will be taken. Each unexcused missed class will result in a 5-point deduction from 
final points accumulated. Excused classes (provide doctor’s note/emergency) will result in a 2-
point deduction. Late students, or students that leave class early will result in a 3-point 
deduction from final points accumulated. No make-up is allowed for lab participation. If 
students are absent for any reason, they will be accountable for any information disseminated 
and be held responsible for class notes, announcements of tests, and assignments.
PARTICIPATION:

Students must demonstrate teamwork as consistent with industry. This is necessary as students contribute to the learning environment and become active learners by attending class and participating. Students who read text assignments prior to class will be equipped to participate and will obtain the most from this course. Participation points will be granted or denied depending on how the student exhibits enthusiasm, interest, teamwork, organization, and preparedness.

ACADEMIC INTEGRITY:

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the Student Conduct Code. The Code is available for review online at http://life.umt.edu/vpsa/student_conduct.php.

DISABILITY ACCOMMODATION:

Eligible students with disabilities will receive appropriate accommodations in this course when requested in a timely way. Please contact me after class or in my office. Please be prepared to provide a letter from your DSS Coordinator. For more information, visit the Disability Services website at http://www.umt.edu/dss/ or call 406.243.2243 (Voice/Text) or http://www.umt.edu/dss.

CULINARIAN CODE:

All students are expected to uphold all teachings of the American Culinary Federation’s Culinarian Code:

As a proud member of the American Culinary Federation, I pledge to share my professional knowledge and skill with all culinarians. I will place honor, fairness, cooperation and consideration first when dealing with my colleagues. I will keep all comments professional and respectful when dealing with my colleagues. I will protect all members from the use of unfair means, unnecessary risks and unethical behavior when used against them for another’s personal gain. I will support the success, growth, and future of my colleagues and this great federation.

REQUIRED TEXTBOOK:


**SUPPLIES:** Knife kit, camera, calculator.

**CELL PHONE POLICY:** Cell phones are allowed in class only as a means to record photos for the final notebook.

**UNIFORM POLICY:** Students will be required to be in full Culinary Uniform to be accepted into class. Daily line-ups will take place and any student that is not in full uniform will be sent home and will lose participation points for the day.

**COURSE OUTLINE:**

All weekly plans, reading assignments, project due dates, and testing dates are to be delivered and explained the first day of class. Final comprehensive written and practical exam date will be announced at this time.

I. The language of Nutrition  
   a. Nutrients  
   b. Calories  
   c. Carbohydrates  
   d. Fat  
   e. Cholesterol  
   f. Protein  
   g. Water  
   h. Vitamins and minerals

II. The Pyramids/Diets  
   a. The USDA Food Guide Pyramid  
   b. The Mediterranean Pyramid  
   c. The Vegetarian Pyramid  
   d. Gluten Free  
   e. Vegan/Vegetarianism

III. The Elements of Flavor  
    a. Seeing flavor  
    b. Hearing flavor

IV. Smelling flavor  
    a. Tasting flavor  
    b. Deconstructing flavor

V. Fruits and Vegetables, Grains and Legumes  
   a. Grains and legumes  
   b. Phytochemicals and antioxidants  
   c. Plant based menu options  
   d. Fruits and vegetables

VI. Cooking with Less Fat  
    a. The function of fat  
    b. Types of fat
c. Choosing the right ingredients
d. Choosing the right equipment
e. Replacing fat
f. Reducing fat

VII. Moderating Salt
   a. Sodium and hypertension
   b. Hidden sources of sodium
   c. Getting the most from the least
   d. Highlighting natural flavors
   e. MSG

VIII. Sweeteners
   a. Refined sugar
   b. Nature’s Sweeteners
   c. Hidden sugar sources
   d. Serving temperature

IX. The Techniques of Healthy Cooking
   a. Sautéing
   b. Stir-frying
   c. Grilling
   d. Broiling
   e. Roasting
   f. Steaming
   g. Shallow poaching
   h. Boiling
   i. Stewing and braising

X. Agricultural Issues in Ingredient Selection
   a. Sustainable agriculture
   b. Organic farming
   c. Free range poultry
   d. Plant biotechnology

XI. Menu and Recipe Development
   a. The market place
   b. Standards for menu development
   c. Planning parameters
   d. Using standard portions
   e. Recipe development

XII. Analyzing the Nutrient Content of Recipes
   a. Methods of analysis
   b. Variables of analysis

XIII. Nutrition Labeling in Menus and Advertisements
   a. Food labeling in the United States
   b. Rules for menus and advertisement
   c. Nutrient content claims
   d. Health claims
   e. Dietary guidelines

XIV. Staff Training and Customer Communication
   a. The service staff
   b. The kitchen staff
   c. Communicating Nutrition

XV. Beverages
   a. Health and alcohol
   b. Cooking with alcohol
   c. Beverage promotion