

# El Paso Community College

## Syllabus

### Part II

## Official Course Description

<b>SUBJECT AREA</b>	<u>Health Services/Allied Health/Health Sciences, General</u>
<b>COURSE RUBRIC AND NUMBER</b>	<u>HECO 1322</u>
<b>COURSE TITLE</b>	<u>Nutrition and Diet Therapy</u>
<b>COURSE CREDIT HOURS</b>	<u>3                      3                      :                      0</u> Credits                      Lec                      Lab

### I. Catalog Description

Studies the chemical, physical, and sensory properties of food; nutritional quality; and food use and diet applications. A grade of “C” or better is required in this course to take the next course. **(3:0)**.

### II. Course Objectives

#### A. Unit I. Introduction to the Study of Nutrition

1. Define nutrition and discuss the factors involved in its study.
2. Identify the six classes of nutrients. Describe the role and function of the nutrients in the body.
3. List the elements that yield energy and state how much energy they yield.
4. Identify and discuss factors which influence individual food choices and habits and describe the cultural and social meanings attached to food.
5. Investigate sources of valid nutrition information, describe what can be done to counter food and nutrition misinformation, and describe the process by which scientists uncover facts.
6. utilize the World Wide Web to research nutrition-related topics.

#### B. Unit II. Nutrition Standards and Guidelines

1. Differentiate between the Dietary Reference Intakes (DRI) and Daily Values (DV) and identify appropriate uses for the DRI's and DV's.
2. Analyze nutrition related disease prevention recommendations, such as Healthy People 2010, and discuss how these recommendations can be applied to individuals.
3. Describe the components required to be on a food label, explain how to use the DV's, and list information required on the Nutrition Facts portion of the label
4. Identify the components of My Pyramid, discuss how this guide can be used for meal and diet planning, and identify foods in each group, including their serving sizes and key nutrients.
5. Explain how foods are grouped into the Exchange Lists and discuss how these lists can be used.
6. List the seven Dietary Guidelines for Americans and how they have been adapted for disease prevention and list the recommended distribution of the percent of calories from carbohydrate, protein, and fat.

7. Calculate the caloric value of a food or meal and the percent of calories from carbohydrate, protein, and fat.
  8. Demonstrate an ability to evaluate individual food intake using a variety of tools, including the computer.
- C. Unit III. Body Systems: Digestion, Absorption and Transport
1. Define the process of digestion and discuss the effects of chemical and mechanical digestion on food.
  2. Diagram the organs of the digestive system and describe their role and function in the digestive process.
  3. Define the role of enzymes, hydrochloric acid, bile and mucus in the digestive process.
  4. Define the process of absorption and identify the areas of nutrient absorption.
  5. Illustrate the mode of transport of each nutrient.
  6. Summarize how the body utilizes the absorbed nutrients.
- D. Unit IV. The Carbohydrates
1. Identify the three major functions of carbohydrate in the body
  2. Discuss the role of various carbohydrates in the diet and describe the function and interaction of monosaccharides and polysaccharides in the body.
  3. Apply the principles of the Exchange List System and Dietary Guidelines for Americans to the study of carbohydrates.
  4. List and describe three cases in which the body is unable to utilize carbohydrates properly and effectively
- E. Unit V. The Lipids
1. Discuss the role of lipids in both the diet and the body.
  2. Classify foods from animal and plant sources and identify the distinct forms of fat that they contain and their affect on health.
  3. Apply the principles of the Exchange List System and Dietary Guidelines for Americans to the study of lipids.
  4. List the functions of fat in the body and in the foods eaten
- F. Unit VI. Protein and Amino Acids
1. Discuss the role of protein in the diet and describe the function of amino acids in the body.
  2. Categorize food based on the amino acid content and describe how food selection can influence an adequate intake of essential amino acids
  3. Apply the principles of the Exchange List System and Dietary Guidelines for Americans to the study of protein.
  4. Summarize the affects of both excess protein intake and inadequate protein intake on health
- G. Unit VII. The Vitamins
1. List and discuss the criteria that determine whether or not a nutrient is considered a vitamin and explain how vitamins are classified.
  2. List and describe the fat-soluble vitamins, identify potential deficiencies and toxicities, define the terms precursor and provitamin, and identify food sources for each fat-soluble vitamin.
  3. List and describe the water-soluble vitamins, identify potential deficiencies and toxicities, define coenzyme and describe the non-B vitamins, and identify food sources for each water-soluble vitamin.

4. Develop a personal philosophy for the use of dietary supplementations
5. Illustrate the role of vitamins in metabolism

H. Unit VIII. Minerals and Water

1. Distinguish between major and trace minerals.
2. Describe the function/role of a given mineral, including a discussion of factors associated with its absorption, interaction with other minerals/nutrients, potential toxicity/deficiency, food source, and storage sites.
3. Describe the function of water in the human body and water requirements of adults.
4. Diagram water balance and the role of minerals.

I. Unit IX. Energy Balance and Exercise

1. List and describe the factors associated with achieving and maintaining a healthy weight and identify factors that may interfere with this achievement.
2. Calculate your individual energy requirements and identify the kcalorie requirement for gaining or losing one pound of body fat.
3. List and describe the components of energy- in and energy- out and apply this information to calculating individual energy requirements
4. Use and apply the Food Exchange Lists for menu development
5. Explain the affects of including physical activity into daily habits.
6. Describe the components of body composition and it reflects an individual's health risks better than just body weight.
7. Discuss the current determination of health risk using the BMI

J. Unit X. Diet and Health

1. Outline the relationship between malnutrition and disease.
2. Discuss the relationship between risk factors and chronic disease.
3. Explain cardiovascular disease and its risk factors.
4. Discuss hypertension and its risk factors, including nutrition risk factors.
5. Explain the relationships between diet and cancer.
6. Outline strategies for including sufficient fruits and vegetables in diet
7. Describe the emerging science of nutritional genomics.

K. Unit XI. Nutrition and the Life Cycle

1. Discuss preexisting dietary and lifestyle factors that influence the pregnancy.
2. Describe the general physiologic changes brought about by a pregnancy.
3. Discuss how normal physiologic changes alter nutrient needs in pregnant women.
4. Outline some general dietary patterns that meet the nutritional needs of pregnancy.
5. Identify some of the more common dietary problems associated with pregnancy and their remedies.
6. Identify factors that would cause a pregnancy to be considered a high risk to the mother or infant.
7. Discuss special nutritional considerations for the expectant mother who has hypertension, diabetes, PKU, or AIDS.
8. Identify important nutritional concepts to emphasize to pregnant mothers to ensure a healthy and happy pregnancy.
9. Identify behaviors that would be discouraged during a pregnancy and the reasons.
10. List and discuss major nutritional needs during lactation.
11. List and discuss the advantages and barriers to breast-feeding.
12. Describe the normal physical growth pattern for children.
13. List the stages of human growth and the psychosocial task for each stage.
14. Identify methods for determining physical growth and development.

15. Discuss the basic nutritional needs for normal growth and development of children.
16. Discuss the physical characteristics, psychosocial stage of development, and food and feeding practices appropriate for each of the childhood stages (infancy, toddler, preschooler, school-age, and adolescence).
17. Discuss one nutrient that is of particular importance at each stage of development.
18. Explain how changes in growth and psychosocial development influence eating habits.
19. Discuss the nutritional needs of adolescents, and include factors that may put them at risk for nutritional deficiencies.
20. Provide suggestions that might be helpful to a new mother in regard to feeding a toddler who is resistant to eating.
21. State four different anthropometric measurements.
22. State common behaviors indicative of normal growth and development.
23. State the three adult stages and the psychosocial aspects associated with each.
24. Identify social and economic problems facing the aging American.
25. Identify biologic changes that occur during the aging process.
26. Discuss the role of nutrition in the aging process.
27. Discuss specific nutrient needs for the aging adult.
28. Identify clinical problems encountered by the aging adult.
29. Identify factors that contribute to malnutrition in the aging adult.
30. List programs or community resources available to help meet the needs of the aging adult.
31. State reasons why dehydration may be more common in older adults.
32. Discuss the possible causes of overweight and underweight in older adults.

M. Unit XII. Hunger and the World Food Supply

1. Discuss food insecurity in the United States.
2. Recognize the severity and extent of poverty and starvation in the developing world.
3. Discuss how extreme poverty affects nutrition status in adults and children.
4. Discuss the world food supply and the factors that affect it.
5. Outline the steps that governments, private enterprises, and individuals can take to ensure a sustainable food supply.
6. Describe low-input agriculture and its importance to future food production.

### III. Learning Outcomes (WECM)

Upon successful completion of this course, students will:

1. Apply nutritional knowledge to analyze personal dietary intakes, to plan nutritious meals using nationally established criteria to meet recommended goals, and to evaluate food labels and the validity of nutritional claims.
2. Trace the pathways and processes that occur in the body to handle nutrients and alcohol through consumption, digestion, absorption, transport, metabolism, storage and waste excretion.
3. Discuss functions, sources, deficiencies, and toxicities of macro- and micronutrients, including carbohydrates, lipids, proteins, water, vitamins, and minerals.
4. Apply the concept of energy balance and its influences at the physical, emotional, societal, and cellular level to evaluate advantages and disadvantages of various methods used to correct energy imbalances.
5. Utilize concepts of aerobic and anaerobic energy systems, and knowledge about macronutrients, vitamins, minerals, ergogenics, and supplements and relate them to fitness and health.
6. Describe health and disease issues related to nutrition throughout the life cycle, including food safety, corrective dietary modifications, and the influence of specific nutrients on diseases.

#### **IV. Evaluation**

##### **A. Written Assignments**

1. At least one diet intake evaluated using a diet analysis computer program.
2. Additional written assignments or projects can be assigned at the instructor's discretion. These assignments will address one or more of the course objectives.

##### **B. Examinations**

A minimum of three examinations or three quizzes and one examination will be given. The final examination may be comprehensive or cover at least one unit of study.

##### **C. Extra Credit**

The instructor may assign activities which reflect the learning objectives as extra credit. These activities may provide no more than 3 percentage points towards the final grade.

##### **D. Grading Percentages**

Examinations will contribute no less than 45% and no more than 60% of the total grade. Examinations may be weighted or averaged. Homework assignments will contribute at least 40% of the total grade and will be weighted at the instructor's discretion.

##### **E. Remediation**

At the instructor's discretion, students may be allowed to retake exams/quizzes and/or rewrite assignments for a higher grade.

##### **F. Grading Scale**

Examinations and written assignments will be recorded to at least 1/10<sup>th</sup> of a percentage place. Rounding of grades will take place after calculating the exam grade and written assignments.

89.5 - 100 = A  
79.5 - 89.4 = B  
69.5 - 79.4 = C  
59.5 - 69.4 = D  
59.4 and less = F

Note: All health programs require a grade of "C" or better to be accepted for fitting degree plan courses.

#### **V. Disability Statement (Americans with Disabilities Act [ADA])**

EPCC offers a variety of services to persons with documented sensory, mental, physical, or temporary disabling conditions to promote success in classes. If you have a disability and believe you may need services, you are encouraged to contact the Center for Students with Disabilities to discuss your needs with a counselor. All discussions and documentation are kept confidential. Office locations: VV Rm C-112 (831-2426); TM Rm 1400 (831-5808); RG Rm B-201 (831-4198); NWC Rm N-54 (831-8815); and MDP Rm A-125 (831-7024).

**VI. 6 Drop Rule**

Students who began attending Texas public institutions of higher education for the first time during Fall 2007 semester or later are subject to a 6-Drop limit for all undergraduate classes. Developmental, ESL, Dual Credit and Early College High School classes are exempt from this rule. All students should consult with their instructor before dropping a class. Academic assistance is available. Students are encouraged to see Counseling Services if dropping because exemptions may apply. Refer to the EPCC catalog and website for additional information.

**VII. Title IX and Sex Discrimination**

Title 9 (20 U.S.C. 1681 & 34 C.F.R. Part 106) states the following "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any educational program or activity receiving Federal financial assistance." The Violence Against Women Act (VAWA) prohibits stalking, date violence, sexual violence, and domestic violence for all students, employees and visitors (male and female). If you have any concerns related to discrimination, harassment, or assault (of any type) you can contact the Assistant to the Vice President for Student and Enrollment Services at 915-831-2655. Employees can call the Manager of Employee Relations at 915-831-6458. Reports of sexual assault/violence may also be reported to EPCC Police at 915-831-2200.