El Paso Community College
Syllabus
Part II
Official Course Description

SUBJECT AREA TITLE	**Dental Hygiene**
COURSE RUBRIC AND NUMBER	**DHYG 1207**
COURSE TITLE	**General and Dental Nutrition**
COURSE CREDIT HOURS	**2 2 : 1** **Credits Lec Lab**

I. Catalog Description

Studies general nutrition and nutritional biochemistry emphasizing the effect nutrition has on oral health. A grade of "C" or better is required in this course to take the next course. **Prerequisites: DHYG 2161 and ENGL 1301 and PSYC 2301 or PSYC 2314 or PSYC 2319. Corequisites: DHYG 1215 and DHYG 2231 and DHYG 2262 and PHIL 2306. (2:1). Lab fee**.

II. Course Objectives

Overall Course Objectives:
Upon satisfactory completion of the course, the student will be able to:

A. Determine the role of nutrition in oral health.
B. Differentiate the general physiologic functions of nutrients.
C. Summarize the role of digestion, absorption, and metabolism in nutrition.
D. Relate the basic concepts in biology and chemistry to nutrition as they apply to oral manifestations of diseases.
E. Evaluate nutrition's relationship to the dental disease process.
F. Assess diseases of the oral cavity to determine nutritional deficiencies.
G. Identify considerations affecting nutrient intake.
H. Distinguish between the nutritional variations on the life cycle as it relates to the prevention of disease.
I. Implement nutrition education n sessions with patients through the use of specific resources.
J. Identify the effects of chronic health diseases in the oral cavity.

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

A. Unit I -- Overview of Healthy Eating Habits
   1. Describe the general physiological functions of the six nutrient classifications of foods.
   2. Identify factors that influence patients' food habits.
   3. Name the food groups on MyPlate.
   4. Describe the Dietary Guidelines for Americans and their purpose.
   5. Apply basic nutritional concepts to help patients with nutrition-related problems.

B. Unit II – Concepts in Biochemistry
   1. Explain the role of biochemistry in dental hygiene and nutrition.
   2. Compare and contrast the structure, function, and properties of the four major classes of biomolecules: carbohydrates, proteins, nucleic acids, and lipids.
   3. Differentiate catabolism from anabolism. Explain connections between metabolic pathways in carbohydrate, protein, and lipid metabolism.

C. Unit III – The Alimentary Canal: Digestion and Absorption
   1. Discuss factors that influence food intake.
   2. Describe general functions of each digestive organ.
   3. Choose points in Nutritional Directions for educating dental patients.
   4. Describe how digestion and absorption may affect nutritional status and oral health.

D. Unit IV – Carbohydrate: The Efficient Fuel
   1. Identify major carbohydrates in foods and in the body.
   2. Outline ways glucose can be used by the body.
   3. Summarize the functions of dietary carbohydrates.
   4. Identify dietary sources of lactose, other sugars, and starches.

E. Unit V – Protein: The Cellular Foundation
   1. List the possible fates of amino acids.
   2. Explain how protein foods can be used to complement one another.
   3. Discuss the problems associated with protein deficiency or excess.
   4. Apply nutrition principles regarding food intake to prevent protein deficiency and protein excess into patient education.

F. Unit VI – Lipids: The condensed Energy
   1. Explain the functions of fats in the body and how these affect oral health.
   2. Identify dietary sources for saturated, monounsaturated, polyunsaturated, omega-3 and trans fatty acids, and cholesterol.
   3. Select nutritional directions for various patient issues.

G. Unit VII. Use of the Energy Nutrients: Metabolism and Balance
   1. Calculate energy needs according to the patient's weight and activities.
   2. Explain physiological sources of energy.
   3. Identify factors affecting the basal metabolic rate.
   4. Assess factors affecting energy balance.

H. Unit VIII – Vitamins Required for Calcified Structures
   1. List the fat-soluble vitamins.
   2. Compare the characteristics of water-soluble vitamins with those of fat-soluble vitamins.
   3. Identify functions, deficiencies, excesses, toxicities, and food sources for vitamins A, D, E, K, and C.
   4. Individualize dental hygiene considerations for patients regarding vitamins A, D, E, K, and C

I. Unit IX. – Minerals Essential for Calcified Structures
   1. List the minerals found in collagen, bones, and teeth, and describe their main physiological roles and sources.
   2. Describe causes and symptoms of mineral excesses or deficits.
   3. Discuss the role of water fluoridation in the prevention of dental caries.
   4. Describe advantages and disadvantages of mineral supplementation.

J. Unit X – Nutrients Present in Calcified Structures
   1. Describe the physiological roles of specific minerals and how these apply to oral health, along with sources of copper, selenium, chromium, and manganese.

2. List ultratrace elements present in the body.
3. Identify reasons why large amounts of one mineral may cause nutritional deficiencies of another.
4. Apply dental hygiene considerations for trace elements present in calcified structures.

K. Unit XI – Vitamins Required for Oral Soft Tissues and Salivary Glands
1. Compare and contrast the functions and sources of vitamins and minerals important for healthy oral soft tissues, as well as deficiencies, toxicities, and associated symptoms.
2. Identify dental considerations for vitamins closely involved in maintaining healthy oral soft tissues.
3. Educate the patient on oral soft tissue changes that occur in a B- complex deficiency.
4. Differentiate between scientifically-based evidence versus food fads concerning vitamins.

L. Unit XII – Fluids and Minerals Required for Oral Soft Tissues and Salivary Glands
1. Explain how electrolytes affect hydration status.
2. List normal fluid requirements and identify factors that may affect these requirements.
3. Discuss the roles, imbalances, and sources of water, sodium, potassium, iron, zinc, and iodine.
4. Identify oral signs and symptoms of fluid and electrolyte imbalances.

M. Unit XIII – Nutritional Requirements Affecting Oral Health in Women
1. Assess nutrients commonly supplemented during pregnancy and lactation.
2. Use recommended guidelines to assess food intake of pregnant and lactating women for adequate nutrients.
3. Discuss each factor affecting fetal development.
4. Implement nutrition and oral health considerations for patients who are pregnant or breastfeeding.

N. Unit XIV – Nutritional Requirements During Growth and Development and Eating Habits Affecting Oral Health
1. Describe the procedure for introducing solid foods after the initial stage of feeding by bottle or breast.
2. Discuss ways to handle typical nutritional problems that occur in infants, young children, school-age children, and adolescents.
3. Apply dental aspects related to nutritional needs during infancy, early childhood, elementary school years, and adolescence to patient care.
4. Discuss physiological changes that alter the nutritional status of infants and adolescents.

O. Unit XV – Nutritional Requirements for Older Adults and Eating Habits Affecting Oral Health
1. Discuss ways to handle typical nutritional problems occurring in older adults.
2. Examine dental considerations of nutritional needs that occur in older patients.
3. Discuss physiological changes altering an older individual's nutritional status.
4. Describe factors influencing food intake of older patients.

P. Unit XVI – Food Factors Affecting Health
1. Explain how a patient can obtain adequate nutrients from different cultural food patterns.
2. Explain to a patient how to prepare and store food to retain nutrient value.
3. Provide referrals for nutritional resources.
4. Inform patients of ways to make economical food purchases.
5. List reasons why health quackery can be dangerous.

Q. Unit XVII- Effects of Systemic Disease on Nutritional Status and Oral Health
1. Discuss the various diseases, conditions, and treatments that commonly have oral signs and symptoms.

2. Discuss disease states, conditions, and accompanying treatments likely to affect nutritional intake.
3. Critically assess the implications of a patient's systemic diseases or conditions for optimal oral health.

R. Unit XVIII – Nutritional Aspects of Dental Caries: Causes, Prevention, and Treatment
1. Explain the role each of the following play in the caries process: tooth, saliva, food, and plaque biofilm.
2. Identify foods that stimulate salivary flow.
3. Suggest food and beverage choices and their timing to reduce the cariogenicity of a patient's diet.
4. Describe characteristics of foods having noncariogenic or cariostatic properties.

S. Unit XIX – Nutritional Aspects of Gingivitis and Periodontal Disease
1. Describe the role nutrition plays in periodontal health and disease to a patient.
2. List the effects of food consistency and composition in periodontal disease.
3. Describe nutritional factors associated with gingivitis and periodontitis.
4. Discuss components of nutritional education for a periodontal patient.

T. Unit XX – Nutritional Aspects of Alterations in the Oral Cavity
1. Describe the common signs and symptoms of xerostomia and glossitis.
2. Synthesize appropriate dietary and oral hygiene recommendations for a patient with orthodontics, xerostomia, root caries, dentin hypersensitivity, glossitis, temporomandibular disorder, or removable prosthetic appliances.
3. Identify dietary guidelines appropriate for a patient undergoing oral surgery and a patient with a new denture, before and after insertion.

U. Unit XXI– Nutritional Assessment and Education for Dental Patients
1. Discuss the importance of a thorough health, social, and dental history in relation to assessment of nutrition status.
2. Describe the components needed to assess the nutrition status of a patient.
3. Formulate a dietary treatment plan for a dental problem influenced by nutrition.
4. Practice several communication skills the dental professional should employ when educating a patient.

This course is designed to support the student's development in the knowledge, skills, and values required for graduation from the Program and dental hygiene licensure eligibility. Specifically this course promotes the development of the dental hygienist as defined by the following Educational Standards of the American Dental Association Commission on Dental Accreditation (ADA CODA), and the Department of Dental Hygiene competency statements.

III. ADA CODA EDUCATIONAL STANDARDS/ SCANS COMPETENCIES

ADA CODA Educational Standard 2-9
General education content must include oral and written communications, psychology, and sociology.

ADA CODA Educational Standard 2-10
Biomedical science content must include content in anatomy, physiology, chemistry, biochemistry, microbiology, immunology, general pathology and/or pathophysiology, nutrition and pharmacology.

ADA CODA Educational Standard 2-11
Dental sciences content must include tooth morphology, head, neck and oral anatomy, oral embryology and histology, oral pathology, radiography, periodontology, pain management, and dental materials.

ADA CODA Educational Standard 2-12
Dental hygiene science content must include oral health education and preventive counseling, health promotion, patient management, clinical dental hygiene, provision of services for and management of patients with special needs, community dental/oral health, medical and dental emergencies, legal and ethical aspects of dental hygiene practice, infection and hazard control management, and the provision of oral health care services to patients with blood borne infectious diseases.

ADA CODA Educational Standard 2-13
The basic clinical education aspect of the curriculum must include a formal course sequence in scientific principles of dental hygiene practice, which extends throughout the curriculum and is coordinated and integrated with clinical experience in providing dental hygiene services.

ADA CODA Educational Standard 2-16-a
Graduates must be competent in providing dental hygiene care for the child, adolescent, adult and geriatric patient.

ADA CODA Educational Standard 2-16-b
Graduates must be competent in assessing the treatment needs of patients with special needs.

ADA CODA Educational Standard 2-17
Graduates must be competent in providing the dental hygiene process of care which includes:
a) comprehensive collection of patient data to identify the physical and oral health status;
b) analysis of assessment findings and use of critical thinking in order to address the patient's dental hygiene treatment needs;
c) establishment of a dental hygiene care plan that reflects the realistic goals and treatment strategies to facilitate optimal oral health;
d) provision of patient-centered treatment and evidence-based care in a manner minimizing risk and optimizing oral health;
e) measurement of the extent to which goals identified in the dental hygiene care plan are achieved;
f) complete and accurate recording of all documentation relevant to patient care.

ADA CODA Educational Standard 2-18
Graduates must be competent in providing dental hygiene care for all types of classifications of periodontal disease including patients who exhibit moderate to severe periodontal disease.
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ADA CODA Educational Standard 2-19
Graduates must be competent in interpersonal and communication skills to effectively interact with diverse population groups.

ADA CODA Educational Standard 2-20
Graduates must be competent in assessing, planning, implementing and evaluating community-based oral health programs including, health promotion and disease prevention activities.

ADA CODA Educational Standard 2-21
Graduates must be competent in providing appropriate life support measures for medical emergencies that may be encountered in dental hygiene practice.

ADA CODA Educational Standard 2-22

Graduates must be competent in applying ethical, legal and regulatory concepts to the provision and/or support of oral health care services.

ADA CODA Educational Standard 2-23
Graduates must be competent in the application of self-assessment skills to prepare them for life-long learning.

ADA CODA Educational Standard 2-24
Graduates must be competent in the evaluation of current scientific literature.

ADA CODA Educational Standard 2-25
Graduates must be competent in problem solving strategies related to comprehensive patient care and management of patients.

ADA CODA Educational Standard 5-3
The program must establish, enforce, and instruct students in preclinical/ clinical/laboratory protocols and mechanisms to ensure the management of emergencies. These protocols must be provided to all students, faculty and appropriate staff. Faculty, staff and students must be prepared to assist with the management of emergencies.

SCANS COMPETENCIES

Additionally, this course is designed to support the student's development of the following skills as defined by the Secretary of Labor's Commission on Achieving Necessary Skills (SCANS)

Foundational Skills

(a) Basic Skills
Reading: locate, understand, and interpret written information
Writing: communicate thoughts, ideas, information and messages in writing
Listening: receive, attend to, interpret, and respond to verbal messages and other cues
Speaking: organize ideas and communicate orally

(b) Thinking Skills
Creative Thinking: generate new ideas
Decision Making: specify goals and constraints, generate alternatives, consider risks, and evaluate and choose the best alternative
Problem Solving: recognize problems and devise and implement plan of action
Visualizing: organize and process symbols, pictures, graphs, objects, and other information
Knowing How to Learn: use efficient learning techniques to acquire and apply new knowledge and skills
Reasoning: discover a rule or principle underlying the relationship between two or more objects and apply it when solving a problem

(c) Personal Qualities
Sociability: demonstrate understanding, friendliness, adaptability, empathy, and politeness in group settings

Self-Management: assess oneself accurately, set personal goals, monitor progress, and exhibit self control
Integrity and Honesty: choose ethical courses of action

Workplace Competencies

(d) Interpersonal Skills: A worker must work with others effectively
Teach Others New Skills
Serve Clients/Customers: work to satisfy customers' expectations
Work with Diversity: work well with men and women from diverse backgrounds

(e) Information: A worker must be able to acquire and use information
Acquire and Evaluate Information
Organize and Maintain Information
Interpret and Communicate Information

IV. Evaluation

A. Pre-assessment
Instructors may check each student's prerequisites the first week of class; those who do not qualify could be sent back to Admissions.

B. Post-assessment
The instructor will maintain a continuous record of each student's progress on an institutionally approved grade sheet or computerized substitute. All instructors must keep records in such a way that information would be clear to a second party having to check grade computation in special cases. An explanatory legend should be provided on the grade sheet.

C. Written Assignments
1. At least one diet intake analyzed using a diet analysis computer program.

2. At least case study/research paper concerning food, nutrition, or health. Minimum requirements: 800 words, reference/works cited page, at least one reference from a professional journal, and appropriate reference methods utilized.

3. Additional written assignments or projects can be assigned at the instructor's discretion. These assignments will address one or more of the course objectives.

D. Examinations
1. 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.

E. Extra Credit
The instructor may assign activities which reflect the learning objectives as extra credit. These activities may provide no more the 5 percentage points towards the final grade.

F. 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.

G. Remediation
All assistance for individual remediation must be arranged through the instructor. At the instructor's discretion, students may be allowed to retake exams/quizzes and/or rewrite assignments for a higher grade.

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

A= 93 - 100
B= 83 - 92
C= 75 - 82
D= 69 - 74
F= 69 and below

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. Offices located: VV Rm C-112 (831-2426); TM Rm 1400 (831-5808); RG Rm B-201 (831-4198); NWC Rm M-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 the 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.