Course Description
This course introduces the student to the role of the dental hygienist in the dental health care system and the basic concepts of disease prevention and health promotion. Communication and behavior modification skills are emphasized to facilitate the role of the dental hygienist as an educator.

Prerequisite(s)
Acceptance into the dental hygiene program.

Purpose of Course
To prepare the dental hygienist in the basic concepts of disease prevention and health promotion. The role of the dental hygienist as educator, communicator, and facilitator of behavior modification are emphasized.

Required Materials
Textbook(s):

Learning Outcomes
The intention is for the student to be able to
1. Utilize information received in the course to provide preventive dental hygiene treatment to patients.
2. Effectively select and demonstrate the appropriate cleaning aids for patients.
3. Effectively provide dental education to patients.

Course Competencies
Actions that are essential to achieve the learning outcomes:
1. Collect and record patient information.
2. Assess patient’s general physical condition.
3. Calculate and record dental indices.
5. Maintain infection control.
6. Interpret phase contrast microscopy.
7. Evaluate the patient’s oral health status and habits.
8. Provide preventive oral health care information to the patient based on individual needs.
9. Instruct the patient in appropriate toothbrushing techniques.
10. Select and use adjunctive oral hygiene devices.
11. Evaluate the patient’s progress and response to self-care therapy.
12. Integrate knowledge of anatomy and physiology into comprehensive patient care.
13. Interpret significance of comprehensive medical history.
14. Select and manipulate the various finishing, polishing and cleaning agents.
15. Develop and implement patient dental health education presentations.
16. Analyze existing dental research.
17. Select appropriate health education media.

**Weekly Units**

**I. Week 1**
- a. Discuss the role of each member of the dental team in prevention of dental disease.
- b. Classify the three levels of prevention and provide examples of each.
- c. Define preventive dentistry in terms of oral health.
- d. Discuss patient motivation and education.

**II. Week 2**
- a. Define the terms: oral flora, microorganisms, aerobe, anaerobe, obligate, facultative, gram-positive, gram-negative, acquired pellicle, materia alba, food debris, dental plaque, and dental calculus.
- b. List bacteria normally occurring in the oral cavity.
- c. Describe the sites where bacteria exist in the oral cavity.
- d. Discuss the significance of changes in oral flora to dental health.
- e. Compare and contrast supra-gingival and sub-gingival plaque.
- f. Discuss the significance of phase contrast microscopy in determining the presence of health or disease.
- g. Diagram the progression of undisturbed dental plaque.
- h. Differentiate between supra and subgingival calculus.
- i. Describe the methods of calculus attachment.
- j. List the inorganic and organic substances that form calculus.

**III. Week 3**
- a. Discuss the factors that contribute to a carious lesion.
- b. Describe the series of events in the formation of a carious lesion.
- c. Discuss the characteristics of root caries.
- d. List preventive measures that can be taken against caries.
- e. Identify specific bacteria associated with caries.
- f. Identify individuals at risk for dental caries.
- g. Demonstrate the effect of acid and fluoride utilizing the protocol given in class.
- h. List various types of Caries Activity Tests and describe their use.
- i. Explain the G.V. Black Dental Caries Classification System.
- j. Identify Early Childhood Caries and its etiology.
- k. Discuss the demineralization and remineralization process.
- l. Describe the caries risk assessment process.

**IV. Week 4**
- a. Define biofilm and its effect on periodontal health.
- b. Define terms associated with periodontal disease.
- c. Identify system disease connections to periodontal disease.
- d. Describe the four anatomical structures of the periodontium; gingiva, cementum, periodontal ligament, alveolar bone.
- e. Describe gingival fibers and identify their function.
- f. Define ANUG and NUG.
- g. Identify the components of and the protective functions of gingival crevicular fluid.
h. Identify the four stages of a periodontal lesion.

i. Identify three key factors in immunological defense.

j. Define cellular immunity and the cells associated.

k. Define the role of the immune system in the pathogenesis of periodontal disease.

l. Identify the classifications of periodontal disease.

m. Identify the risk factors associated with periodontal disease.

n. Identify factors associated with primary prevention of periodontal disease.

V. Week 5

a. List the four host defense mechanisms operational in the oral cavity.

b. Describe how the epithelium functions as a microbial barrier in the mouth.

c. Describe how an ideal dentition functions as a defense mechanism.

d. Describe the cycle of enamel demineralization and remineralization.

e. Apply the knowledge of host defense mechanisms to practicing a medical model of dental care.

f. Identify early and late colonizers in bacterial plaque, and discuss their roles in the disease process.

g. Explain the significance of plaque pH.

h. Differentiate between cellular and humoral immunity.

i. Describe the role of granulocytes in host defense.

j. Describe the importance of oral health in promoting systemic health.

k. Identify the major salivary glands.

l. List the protective functions of saliva.

m. Describe the antimicrobial properties of saliva.

n. Define xerostomia and name two possible causes.

o. Recognize xerostomia in patients.

p. Prescribe appropriate therapies for a patient with compromised salivary function.

q. Discuss the functions of the immunoglobulins.

VI. Week 6

a. Describe the history of the toothbrush.

b. Describe manual toothbrush designs.

c. Demonstrate tooth-brushing methods and techniques.

d. Describe the rationale for each tooth-brushing method.

e. Describe toothbrush efficiency and safety evaluations.

f. Recommend appropriate tooth-brushing time and frequency.

g. Determine appropriate time for toothbrush replacement.

h. Demonstrate brush care for dentures, orthodontic appliances, and tongues.

VII. Week 7

a. Differentiate between a cosmetic and a therapeutic dentifrice and mouthrinse.

b. List and define the purpose of each dentifrice ingredient.

c. Explain the various reasons that the same abrasive material in toothpaste can cause differing levels of abrasion on tooth structure.

d. Define three types and amounts of fluoride contained in dentifrices.

e. Identify the agents used in dentifrices to produce anti-caries, anti-calculus, whitening, and anti-hypersensitivity.

f. Explain the ingredients in anti-plaque and anti-gingivitis mouthrinses sold over the counter and as a prescription item.

g. Describe the advantages and disadvantages of mouthrinses containing alcohol.

h. Explain the ADA Seal and its importance to the patient
VIII. **Week 8**
   a. Describe why complementary self-care is needed.
   b. Identify factors that influence selection of supplemental oral hygiene devices and techniques.
   c. State the purposes, indications, contraindications, techniques, advantages, and limitations of various oral hygiene devices.
   d. State the purposes and describe techniques associated with the use of mouthrinses and oral irrigators.
   e. Describe implant and denture care.

IX. **Week 9**
   a. Define water fluoridation and community water fluoridation.
   b. Explain the rationale for using water systems to provide for primary prevention of dental caries.
   c. Describe the caries preventive benefits of water fluoridation.
   d. Define the role of water fluoridation and the impact of multiple sources of fluoride on the decline of dental caries.
   e. Describe fluorosis classifications and characteristics by severity.
   f. State the optimal fluoride concentration range in ppm F, for maximum caries protection with minimal risk of fluorosis.
   g. Explain the Safe Drinking Water Act and the EPA standards for natural fluoride levels.
   h. List the fluoride compounds used to control caries and indicate their relative effectiveness.
   i. Describe the chemical reactions associated with the topical application of sodium fluoride, stannous fluoride, and acidulated phosphate fluoride.
   j. State the expected decreases in caries formation following use of dentifrices and mouthrinses containing fluoride.
   k. Describe fluoridated varnishes and fluoride releasing dental restorative materials, and the potential of these materials to inhibit demineralization and enhance remineralization.
   l. Describe how sealants prevent decay.
   m. List the criteria for selection of teeth for sealant placement.
   n. Describe the underuse of sealants by practitioners, and analyze the validity of the reasons.
   o. Identify which fluorides and chemotherapeutic agents have the ADA Seal of Approval.

X. **Week 10**
   a. Identify principles of adult learning.
   b. Identify the four principles of motivational interviewing.
   c. Use motivational interviewing techniques and apply them to facilitating effective patient education strategies.

XI. **Week 11**
   a. Describe the epidemiology of oral cancer.
   b. Identify risk factors that contribute to oral cancer.
   c. Identify signs and symptoms of oral cancer.
   d. Identify factors to prevent oral cancer.
   e. Identify clinical manifestations of oral cancer and conditions that mimic it.
   f. Describe the common locations for oropharyngeal cancers.
   g. Describe the various screening and diagnostic tools used to detect oral cancer.
   h. Describe the steps in a complete oral cancer examination.
   i. Identify the staging system used for oral cancer.
   j. Identify appropriate referral sites.
   k. Describe treatment options.
   l. Identify resources available to health care providers and patients.
XII. **Week 12**
   a. Describe the different types of tobacco and their uses, harmful toxins, carcinogens, and nicotine levels.
   b. Describe tobacco-related oral diseases and lesions
   c. Describe the process of nicotine addiction as a chemical dependence; behavioral and social aspects of the process.
   d. Identify the specific FDA-approved pharmacotherapies available for tobacco cessation.
   e. Describe the specific components of tobacco cessation intervention in the dental office setting.
   f. Describe the Tobacco Cessation program available in Kansas.

XIII. **Week 13**
   a. Define dental trauma.
   b. Describe the etiology of dental trauma.
   c. Describe the assessment of dental trauma.
   d. List and describe the categories of dental trauma.
   e. List periods of time when use of mouth guards is recommended.
   f. Identify types of mouth guards available for patients.
   g. List patient educational resources available for the medically compromised patient: pregnancy, diabetics, heart conditions, intestinal diseases, mental conditions, periodontal disease.
   h. Demonstrate ability to provide patient education to medically compromised individuals.

**Method of Delivery/Instruction**
- □ Face-to-face
- □ Blended
- ☑ Online

Learning activities will be assigned within and outside the classroom to assist the student to achieve the intended learning outcomes through lecture, Instructor-led class discussion, guest speakers, group activities, lab, drills/skill practice, and others at the discretion of the instructor.

**Method of Grading and Evaluation**
The student will be graded on learning activities and assessment tasks. Grade determinants may include the following: daily work, quizzes, chapter or unit tests, comprehensive examinations, student projects, student presentations, class participation, and other methods of evaluation employed at the discretion of the instructor.