DENTAL SCIENCE
Course Syllabus

Course Number: PDA-0159A
OCAS Code: None
Course Length: 75 Hours
Career Cluster: Health Science
Career Pathway: Therapeutic Services
Career Major(s): Dental Assistant

ODCTE Equivalent: HL000286 – Dental Science
Pre-requisite(s):

Course Description: This course provides instruction in anatomy and physiology and microbiology especially as it relates to application to dental treatment and care. The student will learn about blood borne pathogens. The student will become familiar with the principles of diet and nutrition as they relate to the dental patient.


Course Objectives: A. Anatomy and Physiology
1. Describe the importance of human anatomy in the development of safe care of patients.
3. Analyze dental anatomy and physiology as it relates to the dental office.
4. State at least two reasons why it is important for the assistant to have a basic understanding of the structures of the head and neck.
5. Identify from illustration the major anatomic landmarks of the face and skull.
6. Describe the glide and hinge action of the temporomandibular joint (TMJ).
7. Describe the major muscles of mastication and facial expression.
8. Name the three major salivary glands and the major ducts for each.
9. Describe the major landmarks of the hard plate, soft palate, and oral mucosa.
10. Describe the characteristics of healthy gingival.
11. Locate major bones ad landmarks of the face.
12. Name and describe the parts and tissues of the teeth.
13. List and describe the teeth of the primary and permanent dentition.
14. Name the types of teeth and describe the principle characteristics of each.
15. Describe the dental arches, quadrants, surfaces of the teeth, and the Universal Numbering System.
16. Define overbite and overjet, line and point angles, contours, contacts, and embrasures.
17. Describe normal occlusion and Angle’s classification of occlusion and malocclusion.
18. Demonstrate identification of the permanent teeth by type and differentiate between anterior and posterior teeth.
19. Identify the dental arches.
20. Label the permanent teeth on a chart using the universal numbering system.
21. Label the primary teeth on a chart using the universal numbering system.

B. Microbiology
1. Describe the common organisms that impact the care and treatment of the dental patient.¹
2. Discuss the protection needed from microorganisms in dental practice.¹
3. Describe the responsibility of the dentist/employer in providing hepatitis B virus (HBV) vaccination for employees.¹
4. Describe Standard Precautions for the prevention of disease transmission.¹
5. Describe a quality assurance program for infection control throughout the dental office.¹
6. Describe the Standard Precautions that must be taken during the treatment of a dental patient.¹
7. Define and differentiate between sepsis and asepsis, sterilization and disinfection, disinfectants and antiseptics.¹
8. Describe the chain of infection and modes of disease transmission.
9. Discuss the management of an exposure incident.
10. Name two bacteria commonly found in the mouth and the disease processes associated with them.
12. Describe the factors that must be present for dental caries to occur.
13. Describe the stages of caries development.
14. List four general areas where dental caries occur.
15. List and describe the classifications of periodontal disease.
16. List and give an example of eight sources of information that can be used to make a final diagnosis.
17. Describe the dental implications of radiation therapy.

C. Nutrition¹
1. Discuss the impact of nutrition on the development and care of the teeth.¹
2. Describe dietary considerations for the dental patient.¹
3. Discuss the role of nutrition in preventive dentistry, including giving examples of cariogenic and noncariogenic foods.¹
4. Discuss the dietary limitations for orthodontic patients, patients with injured anterior teeth, and patients with new dentures.¹
5. Demonstrate personal oral hygiene.¹
6. Demonstrate dietary planning for a patient on a soft diet.¹

D. The student will demonstrate employability skills, including dependability, patient/client centered behavior, self-motivation-initiative, positive attitude, and adherence to policies.²

¹ ODCTE Objective
All unmarked objectives are TTC instructor developed.

Teaching Methods: The class will primarily be taught by the lecture and demonstration method and supported by various media materials to address various learning styles. There will be question and answer sessions over material covered in lecture and media presentations. Supervised lab time is provided for students to complete required projects.
Grading Procedures:

1. Students are graded on theory and lab practice and performance.
2. The PDA program requires courses to be passed at 70% or better. For secondary students to be eligible for advanced standing in the PDA program, the course must be passed at eighty (80%) or better.
3. Grading scale: A=90-100%, B=80-89%, C=70-79%, D=60-69%, F=50-59%.

Description of Classroom, Laboratories, and Equipment:

Tulsa Technology Center campuses are owned and operated by Tulsa Technology Center School District No. 18. All programs provide students the opportunity to work with professionally certified instructors in modern, well-equipped facilities.

Available Certifications/College Credit

The student may be eligible to take state, national or industry exam after completion of the program. Tulsa Tech students may be able to earn college credit based on their knowledge gained at Tech. The process of earning credit through Prior Learning Assessment (PLA) will be determined after completion with Tech and based on certification, credential or knowledge of the subject. See program counselor for additional information.

College Credit Eligibility:

The student must maintain a grade point average of 3.0 or better.