



## **COURSE OUTLINE**

### **I. ORIENTATION**

- A. Introduce course and facilities
- B. Discuss syllabus and major objectives
- C. Explain attendance, grading, classroom procedures, code of conduct
- D. Complete course safety requirements/test

### **II. CAREERS IN THE DENTAL PROFESSION**

- A. Research and report on the specialized occupations within the dental industry sector
- B. Identify the steps in the hiring process from application to employment
- C. List the eligibility requirements for various dental assistant positions
- D. Explain the impact of pre-employment activities on employability (e.g., financial irresponsibility, criminal record, improper social media behavior, etc.)
- E. Identify the reasons for disqualification
- F. Describe the physical fitness requirements and the impact of nutrition and a healthy lifestyle on employability/job performance

### **III. PREPARING FOR COLLEGE AND CAREERS**

- A. Review and Discuss California CTE Model Curriculum Standards for Career Ready Practice
- B. Create an Education Plan and a Career Plan aligned with personal goals
- C. Create a Resumé
- D. Create a Career Portfolio
- E. Complete a handwritten/hand-printed Job Application neatly, legibly and with no corrections or mistakes
- F. Practice a professional job interview
- G. Evening of Excellence Essay
- H. Mock Interview

### **IV. INTRODUCTION TO THE DENTAL PROFESSION**

- A. Explore the history and development of dentistry and compare advances in current dental practice
- B. Trace the advancement of dentistry through technology and evaluate the impact technology has made on the quality and scope of dental care
- C. Understand the importance of national, state, and local professional organizations
- D. Define and explain the different dental specialties
- E. Understand the California State Dental Practice Act
- F. Describe the educational process for licensure, registration, and continuing education and the related processes and timelines
- G. Describe dental jurisprudence and ethics
- H. Identify and explain the sections of the Dental Practice Act, including:
  - 1. General Supervision (sections 1067 (J) 1085 (B) and 1086 (A-C))
  - 2. Direct Supervision (sections 1067 (I) 1085 (C) and 1086 (D))
- I. Understand all terms in the California Dental Practice Act
- J. Understand and explain patient's rights

### **V. DENTAL TERMINOLOGY**

- A. Identify word roots and their meanings
- B. Identify combining vowels and forms
- C. Identify common prefixes and suffixes
- D. Correctly write and use compound words
- E. Correctly define, use, pronounce, and write dental terminology for all body systems
- F. Correctly use, pronounce, and write terms for testing, measurements, and diagnosis
- G. Identify common dental abbreviations used in both the clinical and clerical areas
- H. Identify commonly used ADA codes

### **VI. INFECTION CONTROL**

- A. Understand disease transmission and pathology
- B. Explain disease producing organisms and elements

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- C. Identify disease transmission methods affecting the dental profession
- D. Explain the impact of HIV, Herpes, Hepatitis, Tetanus, MRSA, VRE, and Tuberculosis on the dental office and the dental professional
- E. Understand significant diseases and their origins, symptoms, treatment, and prognosis
- F. Demonstrate daily personal hygiene practices
- G. Understand OSHA and its importance to the dental profession
  - 1. Explain the OSHA hazards communication regulation and justify its importance to the dental industry
  - 2. Discuss the relationship and importance of adhering to the OSHA standards both in the classroom and clinical setting
  - 3. Understand the components of a dental practice infection control program
  - 4. Identify the employee categories listed by OSHA
- H. Understand Standard Precautions and its importance to the dental profession
  - 1. Develop an understanding of technical terminology utilized in adherence to standard precautions
  - 2. Identify protective attire mandated for dental personnel
  - 3. Demonstrate proper handwashing technique
  - 4. Demonstrate proper use of protective masks, eyewear, and gloves
  - 5. Relate methods of identifying high-risk patients
- I. Understand sterilization methods for various pieces of dental equipment
  - 1. Differentiate between sterilization and disinfection
  - 2. Perform proper instrument cleaning and sterilization according to OSHA guidelines
  - 3. Utilize basic procedures and considerations necessary for a safe environment
- J. Identify medical waste and describe proper procedures for disposal
- K. Utilize Material Safety Data Sheets and relate their importance to a professional dental team

### **VII. EMERGENCY PREPAREDNESS**

- A. Understand basic emergency preparedness in a dental office in relation to fires and earthquakes
- B. Establish listing of emergency information
- C. Demonstrate the role of the dental assistant in a medical emergency
- D. Determine components of an emergency procedure
- E. Inspect and have knowledge of proper emergency kit and tray requirements
- F. Understand use of oxygen in a medical emergency
- G. Identify and perform basic supportive procedures for selected emergencies
- H. Complete professional level CPR/AED course according to AHA or Red Cross standards
- I. Understand steps to be taken by employer and employee in the event of a needle stick, blood spatter, or puncture incident

### **VIII. BASIC CHAIRSIDE PROCEDURES**

- A. Dental office Design/ Essential Equipment
  - 1. Identify components and major equipment of a professional dental office
  - 2. Understand proper use of compressor and system and vacuum system
  - 3. Understand and demonstrate the effective flow of work in a professional dental office
- B. Equipment
  - 1. Understand organization, time, and efficiency of design of dental treatment rooms
  - 2. Identify the proper use and care of parts of the dental unit
  - 3. Arrange and position the dental chair, dental stools, unit, and light according to treatment site requirements
  - 4. Understand and utilize clock positions
- C. Treatment Room Preparation
  - 1. Prepare treatment room according to OSHA guidelines
  - 2. Prepare treatment room for high-risk or surgical procedures
- D. Patient Preparation and Dismissal
  - 1. Properly seat patient for various procedures
  - 2. Identify and practice methods for reducing patient anxiety

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3. Apply OSHA guidelines for presentation and set up of armamentarium for dental procedures
4. Describe proper dismissal of patient including safety instructions

### E. Oral Evacuation

1. Understand wash field, direct and indirect vision
2. Describe and follow guidelines established by operating zones
3. Demonstrate proficiency by participating in operative procedures utilizing the three-way syringe and high volume evacuation positioning techniques

### F. Moisture Control

1. Summarize the need for moisture control
2. Maintain moisture control using high volume and low volume suction techniques
3. Perform limited area and full mouth rinse
4. Describe and understand full mouth precautions

## IX. RADIOLOGY

### A. Research and identify significant events, people, and advances relating to dental radiography

### B. Production and nature of radiation

1. Understand the physical aspect of radiation and its application to safety in the dental office
2. Define ALARA and discuss the biological and cumulative effects of radiation on human tissue
3. Understand how x-rays are produced
4. Identify the maximum possible doses of ionizing radiation, and personnel monitoring, and discuss the importance of each
5. Explain the hazards of primary, secondary, and scatter radiation
6. Identify the operative components of a radiation machine
7. Explain variables such as mill amperage, kilo voltage, exposure time, and length of the PID device, and how they can affect technique
8. Describe the safety precautions to be used when using radiation
9. Complete the state mandated radiological safety written and performance exams

### C. X-Ray Film and Processing

1. Explain the rationale for using fast speed film
2. Identify the composition, sizes, specific uses, and storage of radiographic films
3. Discuss darkroom requirements and safety and infection control considerations
4. Describe the processing techniques, the composition of the solutions, and the storage of the final radiographs
5. Properly demonstrate how to change solutions and maintain and clean processing equipment
6. Demonstrate proper disposal of used chemistry per EPA-mandated guidelines
7. Manually process films using darkroom
8. Demonstrate how to duplicate radiographs
9. Understand the auto processing of film

### D. Anatomic Landmarks

1. Utilize and apply anatomical guidelines as applied to intraoral and extra oral radiography
2. Prepare patients for film exposure following quality assurance requirements and follow standard precautions
3. Discuss psychological preparation of patient prior to and during exposures and their relationship to reducing the need for retakes

### E. Exposure Techniques

1. Compare and contrast the principles of the paralleling technique and bisecting angle technique
2. Apply the intraoral film placement guides for maxillary/ mandibular periapical/ interproximal exposures
3. Understand the adjustments that are necessary when exposing occlusal film, film on children, and film on edentulous patients

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- 4. Complete two FMX on DXTTR using BIA/ XCP techniques to ADA standards
- 5. Complete two interproximal exposures on DXTTR using BIA/ XCP techniques to ADA standards
  
- F. Radiographic Full Mouth Surveys and Interproximal Surveys
  - 1. Understand steps to expose panoramic radiographs
  - 2. Following standard precautions and quality assurance procedures, properly expose on patients four complete (18) FMX sets (no more than three retakes per set) according to ADA standards
- G. Digital X-Ray Technology
  - 1. Understand the basic concepts of digital x-rays
  - 2. Outline the advantages and disadvantages of digital x-rays
  - 3. Explain and understand the equipment that is needed for digital x-rays, such as x-ray unit, intraoral sensors, computer, monitor and imaging software
  - 4. Understand sensor preparation and related infection control
  - 5. Understand sensor placement using paralleling technique
- H. Impression Scanning

**ESSENTIAL STANDARDS AND KEY ASSIGNMENTS**  
**INDUSTRY SECTOR: Health Science and Medical Technology**

**ESSENTIAL PATHWAY STANDARD – Patient Care, 1,2,5,6,7,8,9**

**KEY ASSIGNMENT**

**ESSENTIAL PATHWAY STANDARD - B2.0**

**KEY ASSIGNMENT**

**ESSENTIAL PATHWAY STANDARD – B3.0**

**KEY ASSIGNMENT**

**ESSENTIAL PATHWAY STANDARD – B4.0**

**KEY ASSIGNMENT**

**ESSENTIAL PATHWAY STANDARDS – B5.0**

**KEY ASSIGNMENT**

## CTE MODEL CURRICULUM STANDARDS FOR CAREER READY PRACTICE

1. **Apply appropriate technical skills and academic knowledge.** Career-ready individuals readily access and use the knowledge and skills acquired through experience and education. They make connections between abstract concepts with real-world applications and recognize the value of academic preparation for solving problems, communicating with others, calculating measures, and performing other work-related practices.

2. **Communicate clearly, effectively, and with reason.** Career-ready individuals communicate thoughts, ideas, and action plans with clarity, using written, verbal, electronic, and/or visual methods. They are skilled at interacting with others: they are active listeners who speak clearly and with purpose, and they are comfortable with terminology that is common to workplace environments. Career-ready individuals consider the audience for their communication and prepare accordingly to ensure the desired outcome.

3. **Develop an education and career plan aligned with personal goals.** Career-ready individuals take personal ownership of their educational and career goals and manage their individual plan to attain these goals. They recognize the value of each step in the educational and experiential process, and they understand that nearly all career paths require ongoing education and experience to adapt to practices, procedures, and expectations of an ever-changing work environment. They seek counselors, mentors, and other experts to assist in the planning and execution of education and career plans.

4. **Apply technology to enhance productivity.** Career-ready individuals find and maximize the productive value of existing and new technology to accomplish workplace tasks and solve workplace problems. They are flexible and adaptive in acquiring and using new technology. They understand the inherent risks—personal and organizational—of technology applications, and they take actions to prevent or mitigate these risks.

5. **Utilize critical thinking to make sense of problems and persevere in solving them.** Career-ready individuals recognize problems in the workplace, understand the nature of the problems, and devise effective plans to solve the problems. They thoughtfully investigate the root cause of a problem prior to introducing solutions. They carefully consider options to solve a problem and, once agreed upon, follow through to ensure the problem is resolved.

6. **Practice personal health and understand financial literacy.** Career-ready individuals understand the relationship between personal health and workplace performance. They contribute to their personal well-being through a healthy diet, regular exercise, and mental health activities. Career-ready individuals also understand that financial literacy leads to a secure future that enables career success.

7. **Act as a responsible citizen in the workplace and the community.** Career-ready individuals understand the obligations and responsibilities of being a member of a community and demonstrate this understanding every day through their interactions with others. They are aware of the impacts of their decisions on others and the environment around them, and they think about the short-term and long-term consequences of their actions. They are reliable and consistent in going beyond minimum expectations and in participating in activities that serve the greater good.

8. **Model integrity, ethical leadership, and effective management.** Career-ready individuals consistently act in ways that align with personal and community-held ideals and principles. They employ ethical behaviors and actions that positively influence others. They have a clear understanding of integrity and act on this understanding in every decision. They use a variety of means to positively impact the direction and actions of a team or organization, and they recognize the short-term and long-term effects that management's actions and attitudes can have on productivity, morale, and organizational culture.

9. **Work productively in teams while integrating cultural and global competence.** Career-ready individuals contribute positively to every team, as both team leaders and team members. To avoid barriers to productive and positive interaction, they apply an awareness of cultural differences. They interact effectively and sensitively with all members of the team and find ways to increase the engagement and contribution of other members.

10. **Demonstrate creativity and innovation.** Career-ready individuals recommend ideas that solve problems in new and different ways and contribute to the improvement of the organization. They consider unconventional ideas and suggestions by others as solutions to issues, tasks, or problems. They discern which ideas and suggestions may have the greatest value. They seek new methods, practices, and ideas from a variety of sources and apply those ideas to their own workplace practices.

11. **Employ valid and reliable research strategies.** Career-ready individuals employ research practices to plan and carry out investigations, create solutions, and keep abreast of the most current findings related to workplace environments and practices. They use a reliable research process to search for new information and confirm the validity of sources when considering the use and adoption of external information or practices.

12. **Understand the environmental, social, and economic impacts of decisions.** Career-ready individuals understand the interrelated nature of their actions and regularly make decisions that positively impact other people, organizations, the workplace, and the environment. They are aware of and utilize new technologies, understandings, procedures, and materials and adhere to regulations affecting the nature of their work. They are cognizant of impacts on the social condition, environment, workplace, and profitability of the organization.

## CTE ANCHOR STANDARDS—Common Core English Language Arts Alignment

### **1: Academics**

Analyze and apply appropriate academic standards required for successful industry sector pathway completion leading to postsecondary education and employment. Refer to the industry sector alignment matrix for identification of standards. Note: alignment listed within each sector Anchor Standard

### **2: Communications Language Standard**

Acquire and accurately use general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the (career and college) readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression. LS 9-10, 11-12.6 Anchor Standard

### **3: Career Planning and Management Speaking and Listening Standard**

Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data. SLS 11-12.2 Anchor Standard

### **4: Technology Writing Standard**

Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments and information. WS 11-12.6 Anchor Standard

### **5: Problem Solving and Critical Thinking Writing Standard**

Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem, narrow or broaden the inquiry when appropriate, and synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. WS 11-12.7 Anchor Standard

### **6: Health and Safety Reading Standards for Science and Technical Subjects**

Determine the meaning of symbols, key words, and other domain-specific words and phrases as they are used in a specific scientific or technical context. RSTS 9-10 11-12.4 Anchor Standard

### **7: Responsibility and Flexibility Speaking and Listening Standard**

Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners, building on others' ideas and expressing their own clearly and persuasively. SLS 9-10 11-12.1 Anchor Standard

### **8: Ethics and Legal Responsibilities Speaking and Listening Standard**

Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the work. SLS 11-12.1d Anchor Standard

### **9: Leadership and Teamwork Speaking and Listening Standard**

Work with peers to promote civil, democratic discussions and decision making; set clear goals and deadlines; and establish individual roles as needed. SLS 11-12.1b Anchor Standard

### **10: Technical Knowledge and Skills Writing Standard**

Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information. WS 11-12.6 Anchor Standard

### **11: Demonstration and Application**

Demonstrate and apply the knowledge and skills contained in the industry-sector anchor standards, pathway standards, and performance indicators in classroom, laboratory, and workplace settings, and the career technical student organization.