

**Health Science Career Cluster
Essentials of Dental Science
Course Number 25.48800**

Course Description:

Students will receive initial exposure to dental health science technical skills applicable to all dental health occupations. This course provides an overall framework of basic skills utilized in the dental field. Students are required to meet both national and intrastate professional guidelines as designated by applicable regulatory agencies such as the Occupational Safety and Health Administration (OSHA), Center for Disease Control (CDC) and the Georgia Board of Dentistry. Competencies for the co-curricular student organization HOSA are integral components of both core employability standards and technical skills standards. HOSA activities are incorporated throughout the instructional strategies developed for the course. The prerequisite for this course is Introduction to Healthcare Science Technology.

Course Standard 1

HS-EDS-1

The following standard is included in all CTAE courses adopted for the Career Cluster/Pathways. Teachers should incorporate the elements of this standard into lesson plans during the course. The topics listed for each element of the standard may be addressed in differentiated instruction matching the content of each course. These elements may also be addressed with specific lessons from a variety of resources. This content is not to be treated as a unit or separate body of knowledge but rather integrated into class activities as applications of the concept.

Standard: Demonstrate employability skills required by business and industry.

The following elements should be integrated throughout the content of this course.

1.1 Communicate effectively through writing, speaking, listening, reading, and interpersonal abilities.

Person-to-Person Etiquette	Telephone and Email Etiquette	Cell Phone and Internet Etiquette	Communicating At Work	Listening
Interacting with Your Boss	Telephone Conversations	Using Blogs	Improving Communication Skills	Reasons, Benefits, and Barriers
Interacting with Subordinates	Barriers to Phone conversations	Using Social Media	Effective Oral Communication	Listening Strategies
Interacting with Co-workers	Making and Returning Calls		Effective Written Communication	Ways We Filter What We Hear
Interacting with Suppliers	Making Cold Calls		Effective Nonverbal Skills	Developing a Listening Attitude
	Handling Conference Calls		Effective Word Use	Show You Are Listening
	Handling Unsolicited Calls		Giving and Receiving Feedback	Asking Questions
				Obtaining Feedback
				Getting Others to Listen

Nonverbal Communication	Written Communication	Speaking	Applications and Effective Résumés
Communicating Nonverbally	Writing Documents	Using Language Carefully	Completing a Job Application
Reading Body Language and mixed Messages	Constructive Criticism in Writing	One-on-One Conversations	Writing a Cover Letter

Georgia Department of Education

Matching Verbal and Nonverbal communication		Small Group Communication	Things to Include in a Résumé
Improving Nonverbal Indicators		Large Group Communication	Selling Yourself in a Résumé
Nonverbal Feedback		Making Speeches	Terms to Use in a Résumé
Showing Confidence Nonverbally		Involving the Audience	Describing Your Job Strengths
Showing Assertiveness		Answering Questions	Organizing Your Résumé
		Visual and Media Aids	Writing an Electronic Résumé
		Errors in Presentation	Dressing Up Your Résumé

1.2 Demonstrate creativity by asking challenging questions and applying innovative procedures and methods.

Teamwork and Problem Solving	Meeting Etiquette
Thinking Creatively	Preparation and Participation in Meetings
Taking Risks	Conducting Two-Person or Large Group Meetings
Building Team Communication	Inviting and Introducing Speakers
	Facilitating Discussions and Closing
	Preparing Visual Aids
	Virtual Meetings

1.3 Exhibit critical thinking and problem solving skills to locate, analyze and apply information in career planning and employment situations.

Problem Solving	Customer Service	The Application Process	Interviewing Skills	Finding the Right Job
Transferable Job Skills	Gaining Trust and Interacting with Customers	Providing Information, Accuracy and Double Checking	Preparing for an Interview	Locating Jobs and Networking
Becoming a Problem Solver	Learning and Giving Customers What They Want	Online Application Process	Questions to Ask in an Interview	Job Shopping Online
Identifying a Problem	Keeping Customers Coming Back	Following Up After Submitting an Application	Things to Include in a Career Portfolio	Job Search Websites
Becoming a Critical Thinker	Seeing the Customer's Point	Effective Résumés:	Traits Employers are Seeking	Participation in Job Fairs
Managing	Selling Yourself and the Company	Matching Your Talents to a Job	Considerations Before Taking a Job	Searching the Classified Ads
	Handling Customer Complaints	When a Résumé Should be Used		Using Employment Agencies
	Strategies for Customer Service			Landing an Internship
				Staying Motivated to Search

1.4 Model work readiness traits required for success in the workplace including integrity, honesty, accountability, punctuality, time management, and respect for diversity.

Workplace Ethics	Personal Characteristics	Employer Expectations	Business Etiquette	Communicating at Work
Demonstrating Good Work Ethic	Demonstrating a Good Attitude	Behaviors Employers Expect	Language and Behavior	Handling Anger
Behaving Appropriately	Gaining and Showing Respect	Objectionable Behaviors	Keeping Information Confidential	Dealing with Difficult Coworkers
Maintaining Honesty	Demonstrating Responsibility	Establishing Credibility	Avoiding Gossip	Dealing with a Difficult Boss

Georgia Department of Education

Playing Fair	Showing Dependability	Demonstrating Your Skills	Appropriate Work Email	Dealing with Difficult Customers
Using Ethical Language	Being Courteous	Building Work Relationships	Cell Phone Etiquette	Dealing with Conflict
Showing Responsibility	Gaining Coworkers' Trust		Appropriate Work Texting	
Reducing Harassment	Persevering		Understanding Copyright	
Respecting Diversity	Handling Criticism		Social Networking	
Making Truthfulness a Habit	Showing Professionalism			
Leaving a Job Ethically				

1.5 Apply the appropriate skill sets to be productive in a changing, technological, diverse workplace to be able to work independently and apply team work skills.

Expected Work Traits	Teamwork	Time Management
Demonstrating Responsibility	Teamwork Skills	Managing Time
Dealing with Information Overload	Reasons Companies Use Teams	Putting First Things First
Transferable Job Skills	Decisions Teams Make	Juggling Many Priorities
Managing Change	Team Responsibilities	Overcoming Procrastination
Adopting a New Technology	Problems That Affect Teams	Organizing Workspace and Tasks
	Expressing Yourself on a Team	Staying Organized
	Giving and Receiving Constructive Criticism	Finding More Time
		Managing Projects
		Prioritizing Personal and Work Life

1.6 Present a professional image through appearance, behavior and language.

On-the-Job Etiquette	Person-to-Person Etiquette	Communication Etiquette	Presenting Yourself
Using Professional Manners	Meeting Business Acquaintances	Creating a Good Impression	Looking Professional
Introducing People	Meeting People for the First Time	Keeping Phone Calls Professional	Dressing for Success
Appropriate Dress	Showing Politeness	Proper Use of Work Email	Showing a Professional Attitude
Business Meal Functions		Proper Use of Cell Phone	Using Good Posture
Behavior at Work Parties		Proper Use in Texting	Presenting Yourself to Associates
Behavior at Conventions			Accepting Criticism
International Etiquette			Demonstrating Leadership
Cross-Cultural Etiquette			
Working in a Cubicle			

Support of CTAE Foundation Course Standards and Georgia Standards of Excellence L9-10RST 1-10 and L9-10WHST 1-10:

Georgia Standards of Excellence ELA/Literacy standards have been written specifically for technical subjects and have been adopted as part of the official standards for all CTAE courses.

Course Standard 2

HS-EDS-2

Research careers and opportunities in the dental field and how dentistry has evolved over the years.

- 2.1 Identify a variety of careers in the area of dentistry and explain the education and credentialing requirements for each area.
- 2.2 Explore the various employment opportunities and career growth potential in dentistry.
- 2.3 Differentiate the credentialing, licensing, roles, functions, and responsibilities of the team members within the field of dentistry.
- 2.4 Research the functions of the professional organizations in the field of dentistry.
- 2.5 Research the history of dental science and how the dental field has evolved.

Course Standard 3

HS-EDS-3

Investigate the laws, regulations, and ethical considerations in the dental fields.

- 3.1 Describe ethical considerations and obligations in the dental team-patient relationship.
- 3.2 Explain standard of care as it relates to the field of dentistry.
- 3.3 Investigate the role of professional dental field organizations in the area of ethics and jurisprudence.
- 3.4 Research the significant laws that relate to the field of dentistry including dental laboratories.
- 3.5 Apply ethical and legal standards to the occupational area.
- 3.6 Adhere to patient confidentiality and the HIPAA guidelines.
- 3.7 Discuss state laws governing the practice of dentistry.
- 3.8 Demonstrate compliance with federal, state, and local regulations regarding safety practices.
- 3.9 Explain patient's rights and responsibilities.

Course Standard 4

HS-EDS-4

Classify pathogenic and non-pathogenic microorganisms, the various modes of transmission, and procedures to prevent transmission in the dental setting.

- 4.1 Differentiate between pathogenic and non-pathogenic microorganisms and describe the different classification of microorganisms.
- 4.2 Research blood and airborne pathogens and the various modes of transmission.
- 4.3 Describe and identify the structure of each classification of microorganisms.
- 4.4 Identify procedures utilized to prevent and or minimize the transmission of disease in the dental setting.
- 4.5 Explain procedures utilized to prevent cross contamination.

Course Standard 5

HS-EDS-5

Adhere to appropriate infection control guidelines and regulations and demonstrate infection control procedures including the use of PPE (Personal Protective Equipment).

- 5.1 Differentiate between antiseptics, disinfectants, and sterilization.
- 5.2 Apply methods of sanitizing, disinfecting, and sterilization.
- 5.3 Review safety data sheets prior to preparing antiseptic, disinfectant, and germicidal agents.
- 5.4 Clean, disinfect, and sterilize in accordance with standard precautions.

Georgia Department of Education

- 5.5 Research the CDC (Communicable Disease Center), NADL (National Association of Dental Laboratories), USPH (United States Public Health), and OSHA guidelines for infection control in the dental setting.
- 5.6 Investigate the role of OSHA in enforcing the infection control guidelines.
- 5.7 Demonstrate infection control procedures established by OSHA and the CDC for patient management:
 - universal and standard precautions
 - hand washing
 - proper use of PPE
 - proper disposal using a sharps container
- 5.8 Describe employee training required to meet the OSHA standard for hazardous chemicals.
- 5.9 Identify bio-hazardous waste, how to dispose of such waste, and OSHA guidelines for labeling and disposing bio-hazardous wastes.
- 5.10 Utilize the HMIS (Hazardous Materials Identification System) and safety data sheets.
- 5.11 Adhere to procedures utilized in the management of bio-hazardous materials,
- 5.12 Process and sterilize instruments to specifications of the dental setting and in accordance to OSHA and ADA regulations.
- 5.13 Demonstrate utilization of the ultrasonic cleaner and identify those items that may be processed in the ultrasonic cleaner.
- 5.14 Label and package instruments for sterilization using paper, cloth, plastic, and nylon tubing and maintain equipment asepsis.
- 5.15 Prepare barriers in treatment room to maintain aseptic technique.
- 5.16 Identify physical equipment and mechanical devices provided to safeguard employees.

Course Standard 6

HS-EDS-6

Respond to life threatening and non-life threatening medical and dental emergencies and perform appropriate first aid according to level of training.

- 6.1 Describe signs, symptoms, and management of potentially life threatening and non- life threatening injuries.
- 6.2 Perform first aid skills in accordance with certification requirements through the appropriate certifying agency.
- 6.3 Demonstrate the use of personal protective devices and the use of standard precautions for disease prevention during CPR.
- 6.4 Open obstructed airway of an unconscious infant, child, and adult (simulation).
- 6.5 Perform CPR on infant, child, and adult (simulation) in accordance to certification requirements for Healthcare Providers through the American Heart Association (AHA).
- 6.5 Demonstrate rescue breathing (simulation).
- 6.7 Identify when CPR may be discontinued once initiated.
- 6.8 Demonstrate the effective use of an automatic external defibrillator (AED) utilizing an AED trainer.
- 6.8 Identify the causes, signs, and treatments of medical and dental emergencies.

Course Standard 7

HS-EDS-7

Demonstrate appropriate procedures for taking vital signs, recording vital signs, and recognizing abnormalities in findings.

- 7.1 Assist the patient in completing the patient history.
- 7.2 Review and obtain the medical and dental history.

Georgia Department of Education

- 7.3 Explain factors that may affect temperature, pulse, respiration, and blood pressure.
- 7.4 Identify anatomical locations used to measure temperature, pulse, respiration, and blood pressure.
- 7.5 Demonstrate the ability to accurately take a patient's vital signs using aseptic techniques.
- 7.6 Analyze and identify normal vital signs.
- 7.7 Record and report vital signs manually and electronically.
- 7.8 Identify patients with special needs.
- 7.9 Demonstrate appropriate procedures for oral cancer screenings.

Course Standard 8

HS-EDS-8

Maintain equipment and instruments used in dental procedures.

- 8.1 Identify various types and functions of dental operator and laboratory equipment.
- 8.2 Identify instruments and describe their functions for general dental procedures.
- 8.3 Maintain dental operator equipment and instruments and dental hand pieces.

Course Standard 9

HS-EDS-9

Utilize medical terminology as it relates to the oral cavity and dental procedures.

- 9.1 Identify and define prefixes, suffixes, and roots of commonly used dental terms.
- 9.2 Identify and define basic terminology as it relates to the oral cavity.
- 9.3 Demonstrate proficient knowledge of terminology to describe dental procedures.

Course Standard 10

HS-EDS-10

Research the qualities of a leader and the skills needed to function as a team member and team leader.

- 10.1 Investigate the qualities of a leader and how those qualities are needed in the dental field.
- 10.2 Describe Career and Technical Student Organizations, their importance in leadership development and identify benefits of belonging to HOSA.
- 10.3 Analyze different types of teams including the dental team, identify team members and discuss their roles and responsibilities.