Maryland
STATE DEPARTMENT OF EDUCATION

Program of Study Guide: Dental Assistant - DRAFT

Comprehensive guidelines and course standards for the Dental Assistant

Office of College and Career Pathways

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MARYLAND STATE DEPARTMENT OF EDUCATION

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Purpose

The purpose of this document is to communicate the required Career and Technical Education (CTE) academic standards for the Dental Assistant Program of Study. The academic standards in this document are theoretical and performance based. The standards contain content from multiple state departments of education, Maryland State Board Dental Examiners (MSBDE) Standards, and Dental Assisting National Board (DANB) Certification Standards, and have been reviewed and vetted by members of the Maryland business and industry community.

In addition to academic standards, the Maryland State Department of Education (MSDE) has incorporated into this document Labor Market Information (LMI) definitions and explanations for the Program of Study; program aligned Industry Recognized Credentials; and Work-Based Learning resources and requirements by course level.

This document is intended for use by educational administrators and practitioners. A similar document is available for each state-approved CTE Program of Study.

Standards Sources

Dental Assistant standards are based on various research-backed sources, best practices, and national frameworks that guide effective K-12 education. The following sources provide a rigorous foundation for the Dental Assistant standards, ensuring they are well-rounded, research-driven, and aligned with national expectations and young learners' unique needs.

Here are the primary sources that these standards draw from:

1. **Maryland State Board of Dental Examiners (MSBDE) Standards**
   A. **Description:** The MSBDE oversees dental assisting qualifications in Maryland, including state-specific certifications like the Maryland General Dental Assisting Qualified Functions (MDG) and Dental Radiation Technologist Certification.
   B. **Usage:** The program standards incorporate Maryland's regulatory requirements, ensuring students meet state licensure and certification criteria for dental assisting**.**
   C. **Source:** Maryland State Board of Dental Examiners

2. **Dental Assisting National Board (DANB) Certification Standards**
   A. **Description:** The DANB provides national certification for dental assistants, including exams such as Radiation Health and Safety (RHS), Infection Control (ICE), General Chairside (GC), and state-specific certifications like the Maryland General Dental Assisting Qualified Functions (MDG).
   B. **Usage:** DANB standards guide the curriculum and assessment design to prepare students for nationally recognized dental assisting certifications.
   C. **Source:** DANB Certification Information

3. **Advance CTE Education Career Cluster Framework: Health and Human Services**
   A. **Description:** The Advance CTE Education Career Cluster Framework defines the knowledge and skills necessary for success in the Health and Human Services Cluster, promoting health, wellness, and resilience in individuals and communities.
   B. **B. Usage:** The framework provides a foundation for aligning the Dental Assistant program to broader healthcare career pathways and industry expectations.
   C. **Source:** Advance CTE Career Clusters.

4. **American Heart Association (AHA) Basic Life Support (BLS) Certification Standards**
   A. **Description:** The American Heart Association (AHA) provides certification for Basic Life Support (BLS), focusing on CPR, AED usage, and emergency response protocols.
   B. **Usage:** BLS certification is included in Dental Assistant I to equip students with life-saving skills applicable in healthcare settings.
   C. **Source:** AHA Basic Life Support Certification

5. **National Healthcareer Association (NHA) Certification Guidelines**
   A. **Description:** The NHA provides certifications for healthcare professionals, including the foundational standards for roles like medical assistants and dental support staff.
   B. **B. Usage:** These guidelines align the program with broader healthcare credentials and certifications.
   C. **C. Source:** NHA Certifications

6. **Occupational Safety and Health Administration (OSHA) Healthcare Workplace Standards**
   A. **Description:** OSHA sets guidelines for workplace safety, including infection control, PPE usage, and hazard communication in healthcare environments.
   B. **Usage:** OSHA standards inform the infection control and workplace safety components of the curriculum across all courses.
   C. **Source:** OSHA Healthcare Standards

7. **Medical for Disease Control and Prevention (CDC) Infection Control Guidelines**
   A. **Description:** The CDC provides guidelines for infection prevention and control, emphasizing sterilization, disinfection, and safe handling of materials in healthcare settings.
   B. **Usage:** These guidelines are integrated into infection control training in all courses to ensure compliance with best practices.
   C. **Source:** CDC Infection Control Guidelines

Course Descriptions

Course Level	Course Information	Description
Required Core: Course 1	Dental Assistant I SCED: <XX> Grades: 9-12 Prerequisite: None Credit: 1	Dental Assistant I course introduces students to the foundational concepts of healthcare, focusing on therapeutic, diagnostic, and support services within the industry. Students will explore the structure and organization of healthcare systems, medical ethics, and legal responsibilities, as well as safety and infection control protocols. Emphasis is placed on developing skills in medical terminology, understanding the basic structure and functions of the human body, and preparing for roles in healthcare environments. This course serves as a general introduction to the healthcare field while beginning to build skills relevant to dental assisting. Students completing this course will be prepared to pursue foundational certifications such as Basic Life Support (BLS). This course prepares students to progress into the Dental Assistant II course, where they will complete the requirements for the DNAB Radiation Health and Safety (RHS) certification and the Maryland State Board of Dental Examiners Maryland General Dental Assisting Qualified Functions (MDG) certification.

Course Level	Course Information	Description
Required Core: Course 2	Dental Assistant II SCED: <XX> Grades: 10-12 Prerequisite: Dental Assistant I Credit: 1	Dental Assistant II course builds on foundational knowledge of healthcare and dental assisting, focusing on clinical applications and advanced skills. Students will deepen their understanding of dental anatomy, radiography, infection control, and chairside assisting techniques. This course emphasizes practical skills, including taking impressions, assisting with restorative procedures, and adhering to workplace safety protocols. Students will prepare for and take two key certifications: 1. **Dental Assisting National Board Radiation Health and Safety (RHS)** certification, demonstrating competency in radiographic procedures and safety. 2. **Maryland General Dental Assisting Qualified Functions (MDG)** certification, qualifying them to perform expanded dental assisting duties under Maryland regulations. By the end of this course, students will have gained the technical skills, knowledge, and certifications required to transition into advanced dental assisting roles and pursue work-based learning experiences in subsequent courses.

Course Level	Course Information	Description
Optional Flex: Course 1	Dental Assistant III SCED: <XX> Grades: 11-12 Prerequisite: Dental Assistant I and II Credit: 1	Dental Assistant III course focuses on the structure and functions of the human body to provide students with the advanced knowledge needed to deliver effective patient care. Students will explore the relationships between anatomy, physiology, and disease, with emphasis on homeostasis, pathophysiology, and responses to the external environment. Laboratory investigations and the use of medical technologies will prepare students to analyze diagnostic data, understand therapeutic interventions, and apply science concepts in clinical scenarios. This course is ideal for students preparing to enter advanced healthcare including dental pathways.
Optional Flex: Course 2	Career Connected Learning I SCED: <XX> Grades: 11-12 Prerequisite: Dental Assistant I and II Credit: 1	This flexible, work-based learning course introduces students to real-world applications of classroom knowledge and technical skills through on-the-job experiences and reflective practice. Students engage in career exploration, skill development, and professional networking by participating in youth apprenticeships, registered apprenticeships, pre-apprenticeships, internships, capstone projects, or other approved career-connected opportunities. Variable credit (1–3) accommodates the required on-the-job training hours and related instruction. By integrating industry standards, employability skills, and personalized learning goals, Career Connected Learning I equips students to make informed career decisions, develop a professional portfolio, and build a strong foundation for success in postsecondary education, training, or the workforce.

Course Level	Course Information	Description
Optional Flex: Course 3	Career Connected Learning II SCED: <XX> Grades: 11-12 Prerequisite: Career Connected Learning I Credit: 1	Building on the foundational experiences of Career Connected Learning I, this advanced work-based learning course provides students with deeper on-the-job practice, leadership opportunities, and refined career exploration. Students continue to enhance their technical and professional skills, expanding their industry networks and aligning personal goals with evolving career interests. Variable credit (1–3) remains aligned with the required training hours and related instruction. Through elevated responsibilities and skill application, Career Connected Learning II prepares students to confidently transition into higher-level postsecondary programs, apprenticeships, or the workforce.

Dual Enrollment and Career Connected Learning Experiences Must be Aligned to the CTE Core.

Industry-Recognized Credentials and Work-Based Learning

Industry-Recognized Credentials
By the end of Dental Assistant II: 1. **Dental Assisting National Board Radiation Health and Safety (RHS)** certification, demonstrating competency in radiographic procedures and safety. 2. **Maryland General Dental Assisting Qualified Functions (MDG)** certification, qualifying them to perform expanded dental assisting duties under Maryland regulations. **Optional Credentials (via the Flex Course options)**: Dual Credit Options, Apprenticeships, Internships

Work-Based Learning Examples and Resources		
Dental Assistant I and II**:** **Career Awareness**	Dental Assistant III: **Career Preparation**	**Flex Courses:** **Career Preparation**
• Industry Visits • Guest Speakers • Participation in Career and Technical Student Organizations • Postsecondary Visits – Program Specific Site Tours • Mock Interviews	• All of Career Awareness plus the following: • Job Shadow • Paid and Unpaid Internships	• Paid and Unpaid Internships • Apprenticeships

Labor Market Information: Definitions and Data

Labor market information (LMI) plays a crucial role in shaping Career and Technical Education (CTE) programs by providing insights into industry demands, employment trends, and skills gaps. This data helps education leaders assess the viability of existing programs and identify opportunities for new offerings. By aligning CTE programs with real-time labor market needs, schools can better prepare students for in-demand careers and ensure that resources are effectively utilized to support pathways that lead to high-quality, sustainable employment.

Standard Occupational Code (SOC) and Aligned Industry:

Indicator	Definition	Pathway Labor Market Data
High Wage[1]	Those occupations that have a 25th percentile wage equal to or greater than the most recent MIT Living Wage Index for one adult in the state of Maryland, and/or leads to a position that pays at least the median hourly or annual wage for the DC-VA-MD-WV Metropolitan Statistical Area (MSA). *Note: A 25th percentile hourly wage of $24.74 or greater is required to meet this definition.*	**Standard Occupational Code:** 31-9091: Dental Assistants in Maryland **Hourly Wage/Annual Salary:** 25th Percentile: $20.88 / $43,430.40 50th Percentile: $23.04 / $47,923.20 75th Percentile: $27.27 / $56,721.60
High Skill	Those occupations located within the DC-VA-MD-WV Metropolitan Statistical Area (MSA) with the following education or training requirements: completion of an apprenticeship program; completion of an industry-recognized certification or credential; associate's degree, bachelor's degree, or higher.	**Typical Entry-Level Education:** Postsecondary nondegree award.
In-Demand	Annual growth plus replacement, across all Maryland occupations, is 405 openings between 2024-2029.	**Annual Openings** Dental Assistant: 848

[1] Living Wage Calculator: https://livingwage.mit.edu/states/24

Labor Market Information Data Source

Lightcast Q4 2024 Data Set. Lightcast occupation employment data are based on final Lightcast industry data and final Lightcast staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors). Occupational wage estimates are also affected by county-level Lightcast earnings by industry. Foundational data for the state of Maryland is collected and reported by the Maryland Department of Labor.

Methodology for High Wage Calculations

To combine labor market data across multiple Standard Occupational Classifications (SOCs), a weighted average approach was used to ensure accurate representation of the marketplace. Median wages for each SOC were weighted based on their respective employment levels, reflecting the relative demand for each occupation. This method ensures that occupations with higher employment contribute proportionately to the overall wage calculation. Additionally, job openings from all relevant SOCs were summed to determine the total projected demand. For example, if Mechanical Engineers account for 67% of total employment and Electrical Engineers for 33%, their respective wages are weighted accordingly, and job openings are aggregated to provide a comprehensive view of labor market opportunities. This approach delivers a balanced and accurate representation of both wages and employment demand for the program.

Methodology for In-Demand Calculations

The baseline for annual job openings, taking into account new positions and replacement positions, was determined by taking the average of all annual job openings between 2024 and 2029 across all 797 career sectors at the 5-digit SOC code level. For the 2024-2029 period, average job openings (growth + replacement) is 405.

Course Standards: Dental Assistant I

1. **GENERAL REQUIREMENTS.** This course is recommended for students in Grades 9-12, and there are no prequistites.

2. **INTRODUCTION**
   A. Career and Technical Education (CTE) instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.
   B. The Health and Human Services Career Cluster promotes whole health in individuals and communities through diverse services. This sector includes technical, mental, and therapeutic services and personal care supported by medical and social sciences. By addressing social determinants of health and leveraging health data and science, this Cluster aims to enhance the overall health and resilience of individuals, families, and communities.
   C. The Dental Assistant Program of Study prepares students for careers in dental assisting and healthcare. Aligned with Advance CTE's Health and Human Services Career Cluster, the program develops foundational healthcare knowledge, specialized dental assisting skills, and hands-on experience through internships or apprenticeships. Students gain proficiency in infection control, chairside assisting, patient care, and administrative duties while exploring human anatomy and physiology. Students will be eligible to sit for the DNAB Radiation Health and Safety (RHS) certification exam and the Maryland State Board of Dental Examiners Maryland General Dental Assisting Qualified Functions (MDG) certification exam.
   D. Dental Assistant I introduces students to the foundational concepts of healthcare, focusing on therapeutic, diagnostic, and support services within industry. Students will explore the structure and organization of healthcare systems, medical ethics, legal responsibilities, and safety and infection control protocols. Emphasis is placed on developing skills in medical terminology, understanding the basic structure and functions of the human body, and preparing for roles in healthcare environments. This course serves as a general introduction to the healthcare field while beginning to build skills relevant to dental assisting. Students completing this course will be prepared to pursue foundational certifications such as Basic Life Support (BLS).
   E. Students will participate in at least two Career-Connected Education and Work-Based Learning experiences in this course, which might include informational interviews or job shadowing relevant to the program of study.
   F. Students are encouraged to participate in extended learning experiences through aligned Career and Technical Student Organizations (CTSOs). CTSOs are a cocurricular requirement in the Carl D. Perkins Act, and alignment to CTSO activities is an expectation for CTE programs in the state of Maryland.

3. **KNOWLEDGE AND SKILLS**

   A. The student demonstrates the necessary skills for career development, maintenance of employability, and successful completion of course outcomes. The student is expected to:
      1. Identify and demonstrate positive work behaviors that enhance employability and job advancement, such as regular attendance, promptness, proper attire, maintenance of a clean and safe work environment, and pride in work.
      2. Demonstrate positive personal qualities such as flexibility, open-mindedness, initiative, active listening, and a willingness to learn.

3. Employ effective reading, writing, and technical documentation skills.
4. Solve problems using critical thinking techniques and structured troubleshooting methodologies.
5. Demonstrate leadership skills and collaborate effectively as a team member.
6. Implement safety procedures, including proper use of software and following privacy guidelines.
7. Exhibit an understanding of legal and ethical responsibilities in the healthcare field, following copyright laws and regulations.
8. Demonstrate time-management skills and the ability to prioritize tasks in a technical setting.

B. The student identifies various career pathways in the healthcare field. The student is expected to:

1. Develop a career plan that includes the necessary education, certifications, job skills, and experience for specific roles in healthcare.
2. Create a professional resume and portfolio that reflect skills, projects, certifications, and recommendations.
3. Demonstrate effective interview skills for roles in healthcare fields.

C. The student develops technology and digital literacy skills. The student is expected to:

1. Use technology as a tool for research, organization, communication, and problem-solving.
2. Use digital tools, including computers, mobile devices, collaboration platforms, and cloud services, to access, manage, and create information.
3. Demonstrate proficiency in using emerging and industry-standard technologies.
4. Understand ethical and legal considerations for technology use, including the principles of data protection, copyright, and responsible technology use.

D. The student integrates core academic skills into healthcare practices. The student is expected to:

1. Demonstrate the use of clear communication techniques, both written and verbal, that are consistent with industry standards.
2. Apply English concepts such as writing informative texts when documenting the healthcare plans and articulating goals.
3. Use mathematical concepts for measurement and conversion (Fahrenheit vs. Celsius), ratios and proportions as well as fraction and decimal conversions.

E. The student demonstrates foundational knowledge of healthcare systems and careers in the Health and Biosciences Cluster. The student is expected to:

1. Identify the therapeutic, diagnostic, environmental, and informational systems of the healthcare industry.
2. Evaluate career pathways in the Health and Biosciences Cluster, including entry-level and advanced roles in healthcare.
3. Examine the history, economics, and current trends in the healthcare industry, including their impact on healthcare delivery.
4. Investigate professional and personal qualities essential for success in healthcare careers.

F. The student demonstrates knowledge of human anatomy, physiology, and pathophysiology as it relates to patient care. The student is expected to:

1. Explain the basic structure and functions of major human body systems in health and illness.
2. Identify the signs, symptoms, and care considerations for common diseases and disorders.
3. Apply concepts of anatomy and physiology to real-world scenarios, including patient assessments and care planning.
4. Use medical terminology accurately to describe human anatomy, conditions, and procedures.

G. The student demonstrates the ability to provide safe and effective care in a healthcare environment. The student is expected to:

1. Maintain a safe environment for patients, healthcare providers, and visitors by following safety and emergency protocols.
2. Perform techniques related to infection control, including proper hand hygiene, use of personal protective equipment (PPE), and waste disposal.
3. Identify various pathogenic microorganisms, modes of transmission, and strategies for preventing healthcare-associated infections (HAIs).
4. Demonstrate basic first aid skills and obtain first aid certification from a recognized organization, such as the American Heart Association.

H. The student demonstrates in healthcare procedures and basic clinical skills. The student is expected to:

1. Identify and describe the use of common healthcare and dental instruments, equipment, and materials.
2. Perform basic clinical procedures, including recording vital signs, preparing treatment rooms, and maintaining a safe and comfortable environment for patients.
3. Apply first aid skills and obtain Basic Life Support (BLS).certification from a recognized provider.

I. The student demonstrates knowledge of ethical and legal responsibilities in healthcare. The student is expected to:

1. Analyze ethical considerations in healthcare, including patient confidentiality, autonomy, and informed consent.
2. Demonstrate knowledge of legal responsibilities, including adherence to scope of practice, reporting requirements, and healthcare laws such as HIPAA.
3. Evaluate case studies to make informed decisions regarding ethical and legal challenges in healthcare.

J. The student demonstrates understanding and application of healthcare technologies and resources. The student is expected to:

1. Use medical technologies and electronic health records (EHR) to document patient care and access healthcare information.
2. Evaluate research reports, media, and scientific studies related to healthcare issues and advancements.
3. Explore the role of health data and evidence-based practices in improving patient outcomes and healthcare delivery.

K. The student demonstrates readiness to apply healthcare concepts to real-world patient care scenarios. The student is expected to:

1. Apply science concepts in the assessment and delivery of medical and healthcare services.
2. Simulate basic nursing assistant procedures in a controlled environment, preparing for clinical practice.
3. Engage in clinical decision-making by analyzing patient conditions and identifying appropriate interventions.
4. Integrate academic and technical skills to address scenarios involving therapeutic, diagnostic, and preventive healthcare services.

Course Standards: Dental Assistant II

1. **GENERAL REQUIREMENTS.** This course is recommended for Grades 10-12 students, and Dental Assistant I is the prerequisite.

2. **INTRODUCTION**
   A. Career and Technical Education (CTE) instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.
   B. The Health and Human Services Career Cluster promotes whole health in individuals and communities through diverse services. This sector includes technical, mental, and therapeutic services and personal care supported by medical and social sciences. By addressing social determinants of health and leveraging health data and science, this Cluster aims to enhance the overall health and resilience of individuals, families, and communities.
   C. The Dental Assistant Program of Study prepares students for careers in dental assisting and healthcare. Aligned with Advance CTE's Health and Human Services Career Cluster, the program develops foundational healthcare knowledge, specialized dental assisting skills, and hands-on experience through internships or apprenticeships. Students gain proficiency in infection control, chairside assisting, patient care, and administrative duties while exploring human anatomy and physiology. Students will be eligible to sit for the DNAB Radiation Health and Safety (RHS) certification exam and the Maryland State Board of Dental Examiners Maryland General Dental Assisting Qualified Functions (MDG) certification exam.
   D. Dental Assistant II builds on foundational healthcare and dental assisting knowledge, focusing on clinical applications and advanced skills. Students will deepen their understanding of dental anatomy, radiography, infection control, and chairside assisting techniques. This course emphasizes practical skills, including taking impressions, assisting with restorative procedures, and adhering to workplace safety protocols. Students will prepare for and take two key certifications: Dental Assisting National Board Radiation Health and Safety (RHS) certification, demonstrating competencies in radiographic procedures and safety and the Maryland General Dental Assisting Qualified Functions (MDG) certification.
   E. Students will participate in at least two Career-Connected Education and Work-Based Learning experiences in this course, which might include informational interviews or job shadowing relevant to the program of study.
   F. Students are encouraged to participate in extended learning experiences through aligned Career and Technical Student Organizations (CTSOs). CTSOs are a cocurricular requirement in the Carl D. Perkins Act, and alignment to CTSO activities is an expectation for CTE programs in the state of Maryland.

3. **KNOWLEDGE AND SKILLS**
   A. The student demonstrates the necessary skills for career development, maintenance of employability, and successful completion of course outcomes. The student is expected to:
      1. Identify and demonstrate positive work behaviors that enhance employability and job advancement, such as regular attendance, promptness, proper attire, maintenance of a clean and safe work environment, and pride in work.
      2. Demonstrate positive personal qualities such as flexibility, open-mindedness, initiative, active listening, and a willingness to learn.
      3. Employ effective reading, writing, and technical documentation skills.

4. Solve problems using critical thinking techniques and structured troubleshooting methodologies.
5. Demonstrate leadership skills and collaborate effectively as a team member.
6. Implement safety procedures, including proper use of software and following privacy guidelines.
7. Exhibit an understanding of legal and ethical responsibilities in the healthcare field, following copyright laws and regulations.
8. Demonstrate time-management skills and the ability to prioritize tasks in a technical setting.

B. The student identifies various career pathways in the healthcare field. The student is expected to:

1. Develop a career plan that includes the necessary education, certifications, job skills, and experience for specific roles in healthcare.
2. Create a professional resume and portfolio that reflect skills, projects, certifications, and recommendations.
3. Demonstrate effective interview skills for roles in healthcare fields.

C. The student develops technology and digital literacy skills. The student is expected to:

1. Use technology as a tool for research, organization, communication, and problem-solving.
2. Use digital tools, including computers, mobile devices, collaboration platforms, and cloud services, to access, manage, and create information.
3. Demonstrate proficiency in using emerging and industry-standard technologies.
4. Understand ethical and legal considerations for technology use, including the principles of data protection, copyright, and responsible technology use.

D. The student integrates core academic skills into healthcare practices. The student is expected to:

1. Demonstrate the use of clear communication techniques, both written and verbal, that are consistent with industry standards.
2. Apply English concepts such as writing informative texts when documenting healthcare plans and articulating goals.
3. Use mathematical concepts for measurement and conversion (Fahrenheit vs. Celsius), ratios and proportions as well as fraction and decimal conversions.

E. The student demonstrates advanced knowledge and application of infection control and workplace safety in dental settings. The student is expected to:

1. Apply OSHA and CDC guidelines for infection control and workplace safety, including proper sterilization, disinfection, and hazardous material handling.
2. Implement protocols for managing biohazardous waste, maintaining instrument sterility, and using personal protective equipment (PPE).
3. Evaluate infection control procedures for effectiveness and compliance with regulatory standards.

F. The student demonstrates proficiency in radiographic procedures and safety practices for dental assisting. The student is expected to:

1. Understand the principles of radiation physics, radiographic imaging, and biological effects of radiation exposure.
2. Demonstrate competency in positioning, exposing, and processing dental radiographs.

3. Troubleshoot common radiographic errors and correct techniques to improve imaging outcomes.
4. Adhere to safety measures to protect patients and staff, including the use of protective barriers and dosimeters.

G. The student demonstrates advanced skills in performing expanded functions as a dental assistant. The student is expected to:

1. Take alginate impressions for diagnostic models, study casts, and intraoral appliances.
2. Perform coronal polishing and apply fluoride treatments under supervision.
3. Prepare, place, and remove temporary restorations and crowns, ensuring patient comfort and procedural accuracy.
4. Assist with placing and removing matrix bands, wedges, and retraction cords during restorative procedures.
5. Construct custom trays and athletic mouthguards for patients.

H. The student demonstrates understanding of dental anatomy, morphology, and pathology. The student is expected to:

1. Identify and describe the anatomy of teeth, oral structures, and supporting tissues.
2. Analyze common dental pathologies, including caries, periodontal disease, and malocclusion, and their implications for treatment.
3. Use dental morphology knowledge to assist in diagnosing and planning treatment for patients.

I. **The student demonstrates effective patient care and communication skills. The student is expected to:**

1. Provide patient education on oral hygiene practices, pre- and post-treatment instructions, and preventive care.
2. Demonstrate professional and empathetic communication techniques when interacting with patients of diverse cultural and developmental backgrounds.
3. Accurately document patient information and care plans using dental terminology and electronic health records.

J. The student integrates advanced scientific and critical thinking skills into dental assisting practices. The student is expected to:

1. Apply principles of human anatomy, physiology, and chemistry to analyze and deliver dental care services.
2. Evaluate case studies to identify appropriate treatment options and expanded function procedures.
3. Solve clinical challenges through critical thinking and decision-making skills in simulated and real-world settings.

K. The student prepares for industry-recognized certifications and demonstrates readiness for professional practice. The student is expected to:

1. Review competencies required for the Maryland General Dental Assisting Qualified Functions (MDG) Exam, including expanded function skills such as temporary restorations and fluoride application.
2. Practice and refine radiographic skills and safety measures in preparation for the Dental Assisting National Board (DANB) Radiation Health and Safety (RHS) Exam.
3. Complete mock exams and practical assessments aligned with both certification requirements.

Course Standards: Dental Assistant III

1. **GENERAL REQUIREMENTS.** This course is recommended for students in Grades 11-12 and Dental Assistant I and II are the prerequisites.

2. **INTRODUCTION**

   A. Career and Technical Education (CTE) instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.
   B. The Health and Human Services Career Cluster promotes whole health in individuals and communities through diverse services. This sector includes technical, mental, and therapeutic services and personal care supported by medical and social sciences. By addressing social determinants of health and leveraging health data and science, this Cluster aims to enhance the overall health and resilience of individuals, families, and communities.
   C. The Dental Assistant Program of Study prepares students for careers in dental assisting and healthcare. Aligned with Advance CTE's Health and Human Services Career Cluster, the program develops foundational healthcare knowledge, specialized dental assisting skills, and hands-on experience through internships or apprenticeships. Students gain proficiency in infection control, chairside assisting, patient care, and administrative duties while exploring human anatomy and physiology. Students will be eligible to sit for the DNAB Radiation Health and Safety (RHS) certification exam and the Maryland State Board of Dental Examiners Maryland General Dental Assisting Qualified Functions (MDG) certification exam.
   B. Dental Assistant III course focuses on the structure and functions of the human body to provide students with the advanced knowledge needed to deliver effective patient care. Students will explore the relationships between anatomy, physiology, and disease, with emphasis on homeostasis, pathophysiology, and responses to the external environment. Laboratory investigations and the use of medical technologies will prepare students to analyze diagnostic data, understand therapeutic interventions, and apply science concepts in clinical scenarios. This course is ideal for students preparing to enter advanced healthcare including dental pathways.
   C. Students will participate in at least two Career-Connected Education and Work-Based Learning experiences in this course, which might include informational interviews or job shadowing relevant to the program of study.
   D. Students are encouraged to participate in extended learning experiences through aligned Career and Technical Student Organizations (CTSOs). CTSOs are a co-curricular requirement in the Carl D. Perkins Act, and alignment to CTSO activities is an expectation for CTE programs in the state of Maryland.

3. **KNOWLEDGE AND SKILLS**

   A. The student demonstrates the necessary skills for career development, maintenance of employability, and successful completion of course outcomes. The student is expected to:
      1. Identify and demonstrate positive work behaviors that enhance employability and job advancement, such as regular attendance, promptness, proper attire, maintenance of a clean and safe work environment, and pride in work.
      2. Demonstrate positive personal qualities such as flexibility, open-mindedness, initiative, active listening, and a willingness to learn.

3. Employ effective reading, writing, and technical documentation skills.
4. Solve problems using critical thinking techniques and structured troubleshooting methodologies.
5. Demonstrate leadership skills and collaborate effectively as a team member.
6. Implement safety procedures, including proper use of software and following privacy guidelines.
7. Exhibit an understanding of legal and ethical responsibilities in the healthcare field, following copyright laws and regulations.
8. Demonstrate time-management skills and the ability to prioritize tasks in a technical setting.

A. The student identifies various career pathways in the healthcare field. The student is expected to:

1. Develop a career plan that includes the necessary education, certifications, job skills, and experience for specific roles in healthcare.
2. Create a professional resume and portfolio that reflect skills, projects, certifications, and recommendations.
3. Demonstrate effective interview skills for roles in healthcare fields.

B. The student develops technology and digital literacy skills. The student is expected to:

1. Use technology as a tool for research, organization, communication, and problem-solving.
2. Use digital tools, including computers, mobile devices, collaboration platforms, and cloud services, to access, manage, and create information.
3. Demonstrate proficiency in using emerging and industry-standard technologies.
4. Understand ethical and legal considerations for technology use, including the principles of data protection, copyright, and responsible technology use.

C. The student integrates core academic skills into healthcare practices. The student is expected to:

1. Demonstrate the use of clear communication techniques, both written and verbal, that are consistent with industry standards.
2. Apply English concepts such as writing informative texts when documenting healthcare plans and articulating goals.
3. Use mathematical concepts for measurement and conversion (Fahrenheit vs. Celsius), ratios and proportions as well as fraction and decimal conversions.

D. The student demonstrates advanced understanding of the structure and functions of the human body in the context of healthcare. The student is expected to:

1. Analyze the relationships between the anatomical structures and physiological functions of human body systems and their connection to health and disease.
2. Evaluate the effects of disease, trauma, and congenital defects on cells, tissues, organs, and systems.
3. Use directional terms, anatomical planes, and body cavities to describe the organization of the human body and its systems.
4. Examine the interdependence of body systems in maintaining homeostasis and responding to internal and external stimuli.

E. The student demonstrates proficiency in applying medical and scientific knowledge to healthcare services. The student is expected to:

1. Investigate the chemical and physical processes that occur within the human body, including metabolism, energy transfer, and electrical interactions.
2. Conduct laboratory investigations and apply scientific methods to solve healthcare-related problems and make informed decisions.
3. Analyze the impact of environmental factors, such as toxins and pathogens, on the human body's systems and health.
4. Explain the role of transport systems in the body, including circulatory, lymphatic, and respiratory functions.

F. The student demonstrates the use of medical terminology related to body systems in healthcare contexts. The student is expected to:

1. Accurately define and effectively use medical vocabulary related to anatomical structures, physiological functions, and diseases.
2. Transcribe medical terms in clinical scenarios and patient documentation accurately and efficiently.
3. Interpret diagnostic reports and medical records using relevant medical terminology.
4. Communicate anatomical and physiological information using precise medical language.

G. The student demonstrates the ability to integrate scientific and healthcare knowledge in clinical practice. The student is expected to:

1. Implement investigative procedures, including posing questions, formulating hypotheses, and using appropriate diagnostic methods and technologies.
2. Apply principles of cellular biology and histology to assess and understand disease processes.
3. Use diagnostic and therapeutic technologies accurately, including imaging systems, laboratory tests, and monitoring devices.
4. Organize, analyze, and interpret data from patient assessments to predict trends and make clinical decisions.

H. The student analyzes the historical, cultural, and global context of healthcare delivery. The student is expected to:

1. Compare and contrast the historical significance of medicine with current practices and future advancements.
2. Examine cultural and lifespan considerations in healthcare delivery, including their impact on patient care and outcomes.
3. Analyze global healthcare issues, including regulatory frameworks and challenges in delivering equitable care.
4. Predict future trends in healthcare, including advancements in technology and their implications for patient care.

I. The student demonstrates the ability to evaluate and address healthcare challenges using systems thinking. The student is expected to:

1. Construct general systems models using inputs, throughputs, and feedback loops to represent physiological processes.
2. Analyze the interconnectedness of body systems and their roles in maintaining overall health.
3. Evaluate healthcare delivery systems, regulatory agencies, and their role in improving patient outcomes in a global economy.
4. Propose solutions to healthcare challenges using evidence-based strategies and interdisciplinary approaches.

J. The student demonstrates readiness for Dental Assisting programs and future healthcare careers. The student is expected to:

1. Apply knowledge of anatomy, physiology, and pathophysiology in clinical simulations and real-world scenarios.
2. Synthesize concepts from biology, chemistry, and physics to enhance understanding of human body functions.
3. Explore career pathways in healthcare, including other advanced roles.
4. Develop a professional portfolio that highlights laboratory investigations, clinical skills, and knowledge of human body systems.

Course Standards: Career Connected Learning I and II

Career connected learning is an educational approach that integrates classroom instruction with real-world experiences, enabling high school students to explore potential careers and develop relevant skills before graduation. By participating in work-based learning opportunities—such as apprenticeships, internships, capstone projects, and school-based enterprises—students apply academic concepts in authentic settings, gain practical industry knowledge, and build professional networks. This hands-on engagement helps students connect their studies to future career paths, strengthens their problem-solving and communication skills, and supports a smoother transition into college, vocational programs, or the workforce.

All Career and Technical Education Programs of Study include aspects of work-based learning, and almost all of the programs include two Career Connected Learning (CCL) courses. Below are the course descriptions for CCL I and CCL II. The CCL standards can be found via this link: