

2011 Mississippi Curriculum Framework

Postsecondary Dental Assisting Technology

(Program CIP: 51.0601 – Dental Assisting/Assistant)

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Dental Assisting National Board Certified Dental Assistant Examination Topics	Materials used with permission of the Dental Assisting National Board, Inc. [®]
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Preface

Dental Assisting Research Synopsis

Books, Web sites, and other materials listed at the end of each course were considered during the revision process. Information from the Dental Assisting National Board (DANB) was especially useful in providing insight into trends and issues in the field. These references are suggested for use by instructors and students during the study of the topics outlined.

Industry advisory team members from colleges throughout the state were asked to give input related to changes to be made to the curriculum framework. Specific comments related to soft skills needed in this program included a positive attitude and initiative. Occupational-specific skills stated included Radiology and Dental Science. Safety practices emphasized included safe equipment handling, infection control, and adherence to OSHA standards. Industry advisors also expressed a need for assistants to be proficient in digital equipment operation and electronic medical records.

Instructors from colleges throughout the state were also asked to give input on changes to be made to the curriculum framework. Specific comments related to this program included statements from Advisory Committee members including the need for updated equipment and more hours dedicated to clinical instruction.

Needs of Future Workforce

Dental Assisting will grow faster than average in both Mississippi and the United States, 28 percent (EMSI, 2010). Population growth, greater retention of natural teeth by middle-aged and older people, and an increased focus on preventative dental care for younger generations will fuel demand for dental services (US Bureau of Labor Statistics, 2011).

Dental Assisting Technology Employment Projections and Earnings

Region	2010 Jobs	2020 Jobs	Change	% Change	Openings	2010 Median Hourly Earnings
Regional Total	2,019	2,589	570	28%	968	\$12.94
National Total	296,210	378,025	81,815	28%	138,308	\$15.97

Curriculum

The following national standards were referenced in each course of the curriculum:

- CTB/McGraw-Hill LLC *Tests of Adult Basic Education, Forms 9 and 10* Academic Standards
- Dental Assisting National Board Certified Dental Assistant Examination Topics
- *21st Century Skills*

Industry and instructor comments, along with current research, were considered by the curriculum revision team during the revision process; and changes were made as needed and appropriate. Many of the skills and topics noted in the research were already included in the

curriculum framework. Specific changes made to the curriculum at the 2011 curriculum revision meeting included:

- Competencies and objectives were reviewed to ensure accuracy and appropriateness.
- The Recommended Tools and Equipment list was updated.
- Suggested references for each course were updated.

Assessment

This program is assessed using *Dental Assisting National Board Exam* (DANB).

<http://www.danb.org/main/examinations.asp>

Professional Learning

It is suggested that instructors participate in professional learning related to the following concepts:

- How to use the program Blackboard site
- Differentiated instruction – To learn more about differentiated instruction, please go to http://www.paec.org/teacher2teacher/additional_subjects.html and click on Differentiated Instruction. Work through this online course and review the additional resources.

Program Exceptions

No program exceptions exist at this time.

Foreword

As the world economy continues to evolve, businesses and industries must adopt new practices and processes in order to survive. Quality and cost control, work teams and participatory management, and an infusion of technology are transforming the way people work and do business. Employees are now expected to read, write, and communicate effectively; think creatively, solve problems, and make decisions; and interact with each other and the technologies in the workplace. Career–technical programs must also adopt these practices in order to provide graduates who can enter and advance in the changing work world.

The curriculum framework in this document reflects these changes in the workplace and a number of other factors that impact local career–technical programs. Federal and state legislation calls for articulation between high school and community college programs, integration of academic and career skills, and the development of sequential courses of study that provide students with the optimum educational path for achieving successful employment. National skills standards, developed by industry groups and sponsored by the U.S. Department of Education and Labor, provide career and technical educators with the expectations of employers across the United States. All of these factors are reflected in the framework found in this document.

Referenced throughout the courses of the curriculum are the 21st Century Skills, which were developed by the Partnership for 21st Century Skills, a group of business and education organizations concerned about the gap between the knowledge and skills learned in school and those needed in communities and the workplace. A portion of the 21st Century Skills addresses learning skills needed in the 21st century, including information and communication skills, thinking and problem-solving skills, and interpersonal and self-directional skills. Another important aspect of learning and working in the 21st century involves technology skills. The International Society for Technology in Education, developer of the National Educational Technology Standards (NETS), was a strategic partner in the Partnership for 21st Century Skills. Each postsecondary program of instruction consists of a program description and a suggested sequence of courses that focus on the development of occupational competencies. The MS-CPAS2 blueprints are based upon the suggested course sequences to allow for year 1 and year 2 assessments for all exit options. Please refer to the blueprint online. Each career–technical course in this sequence has been written using a common format, which includes the following components:

- Course Name – A common name that will be used by all community and junior colleges in reporting students
- Course Abbreviation – A common abbreviation that will be used by all community and junior colleges in reporting students
- Classification – Courses may be classified as the following:
 - Career–technical core – A required career–technical course for all students
 - Area of concentration (AOC) core – A course required in an area of concentration of a cluster of programs
 - Career–technical elective – An elective career–technical course
 - Related academic course – An academic course that provides academic skills and knowledge directly related to the program area

- Academic core – An academic course that is required as part of the requirements for an associate’s degree
- Description – A short narrative that includes the major purpose(s) of the course and the recommended number of hours of lecture and laboratory activities to be conducted each week during a regular semester
- Prerequisites – A listing of any courses that must be taken prior to or on enrollment in the course
- Corequisites – A listing of courses that may be taken while enrolled in the course
- Competencies and Suggested Objectives – A listing of the competencies (major concepts and performances) and the suggested student objectives that will enable students to demonstrate mastery of these competencies

The following guidelines were used in developing the program(s) in this document and should be considered in compiling and revising course syllabi and daily lesson plans at the local level:

- The content of the courses in this document reflects approximately 75% of the time allocated to each course. The remaining 25% of each course should be developed at the local district level and may reflect the following:
 - Additional competencies and objectives within the course related to topics not found in the state framework, including activities related to specific needs of industries in the community college district
 - Activities that develop a higher level of mastery on the existing competencies and suggested objectives
 - Activities and instruction related to new technologies and concepts that were not prevalent at the time the current framework was developed or revised
 - Activities that include integration of academic and career–technical skills and course work, school-to-work transition activities, and articulation of secondary and postsecondary career–technical programs
 - Individualized learning activities, including work-site learning activities, to better prepare individuals in the courses for their chosen occupational areas
- Sequencing of the course within a program is left to the discretion of the local district. Naturally, foundation courses related to topics such as safety, tool and equipment usage, and other fundamental skills should be taught first. Other courses related to specific skill areas and related academics, however, may be sequenced to take advantage of seasonal and climatic conditions, resources located outside of the school, and other factors.
- Programs that offer an Associate of Applied Science degree must include a minimum 15-semester-credit-hour academic core. Specific courses to be taken within this core are to be determined by the local district. Minimum academic core courses are as follows:
 - 3 semester credit hours (sch) Math/Science Elective
 - 3 semester credit hours Written Communications Elective
 - 3 semester credit hours Oral Communications Elective
 - 3 semester credit hours Humanities/Fine Arts Elective

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Program Description

The Dental Assisting Technology curriculum is a one-year program of study designed to prepare the student for employment and advancement in the dental assisting field. The curriculum requires a minimum of 46 semester hours of courses with a certificate granted upon completion of the program. CPR - Health Care Provider is a requirement to be completed during the program. If the student desires, an Associate of Applied Science degree may be obtained by completing additional prescribed courses.

The program includes lecture hours, lab hours, and supervised clinical experiences. In the clinical experiences, the student will assist the dentist at chairside in private offices, clinics, and state facilities, as applicable.

Upon graduation from the program, the student may make application for a Radiology permit which is necessary for taking x-rays in a dental office. While in the program or following completion of the program, the student is eligible to sit for the Dental Assisting National Board Certification Exam.

Industry standards are based on the *Dental Assisting National Board Certified Dental Assistant Examination Topics*.

**Suggested Course Sequence I (to begin in Fall Semester)*
Dental Assisting Technology**

CAREER CERTIFICATE

3 sch Public Speaking (SPT 1113)	3 sch Dental Science II (DAT 1323)
1 sch Dental Orientation (DAT 1111)	3 sch Chairside Assisting II (DAT 1423)
4 sch Dental Assisting Materials (DAT 1214)	2 sch Dental Radiology II (DAT 1522)
3 sch Dental Science I (DAT 1313)	2 sch Dental Health Education (DAT 1612)
5 sch Chairside Assisting I (DAT 1415)	4 sch Practice Management (DAT 1714)
3 sch Dental Radiology I (DAT 1513)	5 sch Clinical Experience I (DAT 1815)
19 sch	19 sch

SUMMER TERM

3 sch Written Communications Elective
2 sch Clinical Experience II (DAT 1822)
3 sch Chairside Assisting III (DAT 1433)
8 sch

TECHNICAL CERTIFICATE / DEGREE

After completion of the 12-month course of study, a student will receive a certificate. If a student wishes to receive the AAS degree, the remainder of the minimum academic courses may be taken, plus additional electives. The second year should include:

3 sch Math/Science Elective
3 sch Social/Behavioral Science Elective
3 sch Humanities/Fine Arts Elective
3 sch Fundamentals of Microcomputer Applications (CPT 1113)
8 sch Approved Electives [†]
20 hours

* Students who lack entry-level skills in math, English, science, and so forth will be provided related studies.

†APPROVED ELECTIVES

English Composition I (ENG 1113)
English Composition II (ENG 1123)
Anatomy and Physiology I (BIO 1514)
Anatomy and Physiology II (BIO 1524)
General Biology I (BIO 1134)
General Biology II (BIO 1144)
Microbiology (BIO 2924)
General Chemistry I (CHE 1213)
General Chemistry Laboratory I (CHE 1211)
General Chemistry II (CHE 1223)
General Chemistry Laboratory II (CHE 1221)
Principles of Chemistry I (CHE 1314)
Principles of Chemistry II (CHE 1324)
General Psychology I (PSY 1513)
General Sociology I (SOC 2113)
Nutrition (HEC 1253)
College Algebra (MAT 1313)
Trigonometry (MAT 1323)
Survey of Physics I (PHY 1214 or 2414)
Introduction to Computer Concepts (CSC 1113)
Fundamentals of Microcomputer Applications (CPT 1113)
Music Appreciation (MUS 1113)
Philosophy
History
Foreign Language
Art

**Suggested Course Sequence II (to begin in Spring Semester)*
Dental Assisting Technology**

CAREER CERTIFICATE

SPRING TERM

- 3 sch Public Speaking (SPT 1113)
- 1 sch Dental Orientation (DAT 1111)
- 4 sch Dental Assisting Materials (DAT 1214)
- 3 sch Dental Science I (DAT 1313)
- 5 sch Chairside Assisting I (DAT 1415)
- 3 sch Dental Radiology I (DAT 1513)

19 sch

SUMMER TERM

- 3 sch Written Communications Elective
- 2 sch Clinical Experience II (DAT 1822)
- 2 sch Dental Radiology II (DAT 1522)
- 3 sch Chairside Assisting II (DAT 1423)

10 sch

FALL TERM

- 3 sch Dental Science II (DAT 1323)
- 3 sch Chairside Assisting III (DAT 1433)
- 2 sch Dental Health Education (DAT 1612)
- 4 sch Practice Management (DAT 1714)
- 5 sch Clinical Experience I (DAT 1815)

17 sch

TECHNICAL CERTIFICATE

After completion of the 12-month course of study a student will receive a certificate. If a student wishes to receive the AAS degree, the remainder of the minimum academic courses may be taken, plus additional electives. The second year should include:

- 3 sch Math/Science Elective
- 3 sch Social/Behavioral Science Elective
- 3 sch Humanities/Fine Arts Elective
- 3 sch Fundamentals of Microcomputer Applications (CPT 1113)
- 8 sch Approved Electives[†]

20 sch

- * Students who lack entry-level skills in math, English, science, and so forth will be provided related studies.

[†]APPROVED ELECTIVES

English Composition I (ENG 1113)
 English Composition II (ENG 1123)
 Anatomy and Physiology I (BIO 1514)
 Anatomy and Physiology II (BIO 1524)
 General Biology I (BIO 1134)
 General Biology II (BIO 1144)
 Microbiology (BIO 2924)
 General Chemistry I (CHE 1213)
 General Chemistry Laboratory I (CHE 1211)
 General Chemistry II (CHE 1223)
 General Chemistry Laboratory II (CHE 1221)
 Principles of Chemistry I (CHE 1314)
 Principles of Chemistry II (CHE 1324)
 General Psychology I (PSY 1513)
 General Sociology I (SOC 2113)
 Nutrition (HEC 1253)
 College Algebra (MAT 1313)
 Trigonometry (MAT 1323)
 Survey of Physics I (PHY 1214 or 2414)
 Introduction to Computer Concepts (CSC 1113)
 Fundamentals of Microcomputer Applications (CPT 1113)
 Music Appreciation (MUS 1113)
 Philosophy
 History
 Foreign Language
 Art

Dental Assisting Technology Courses

Course Name: Dental Orientation

Course Abbreviation: DAT 1111

Classification: Career–Technical Core

Description: The development, function, status, and organization of the dental profession; and the professional, legal, and ethical responsibilities of the dental assistant. Terminology emphasizing prefixes, suffixes, roots, abbreviations, spelling, and definitions of medical and dental terms. (1 sch: 1-hr lecture)

Corequisites: All first semester courses

Competencies and Suggested Objectives	
1.	Discuss the development, function, status, and organization of the dental profession. <ol style="list-style-type: none"> a. Identify the major historical events in dentistry and allied health occupations. b. Discuss the increased need and demand for dental care. c. Discuss the manner in which the dental needs of the population are being met. d. Explain the objectives and organizational purposes of the dental profession. e. Define the medical and dental specialties. f. Define the dental specialties and describe the role of the dental assistant in each area. g. Demonstrate knowledge of the function, organizational structure, and services of the professional organization for dentists. h. List the allied professional programs and agencies related to the dental profession. i. Identify the function, organizational structure, and services of the professional organizations for dental assistants. j. Discuss the function and organizational structure of the professional organizations for dental hygienists. k. Discuss the organizations which are available to dental lab technicians. l. Discuss the roles of the dental assistant as a member of the dental team. m. Identify the roles of other members of the dental team.
2.	Discuss the educational requirements of the members of the dental profession. <ol style="list-style-type: none"> a. State the educational requirements for the dental assistant. b. State the educational requirements for the dentist. c. List the educational requirements for the dental hygienist. d. State the educational requirements for the dental lab technician. e. Using the Internet, identify the requirements which a candidate must meet in order to qualify for the certification exam, and explain the requirements necessary to retain current certification.
3.	Explain the professional, legal, and ethical responsibilities of the dental assistant. <ol style="list-style-type: none"> a. Demonstrate knowledge of the rules and regulations of the dental assisting program. b. Discuss the importance of good health and grooming while working in a health team field. c. Define jurisprudence and code of ethics, and discuss ethics.

d. Explain the provisions in the state dental practice act, especially those pertaining to the dental auxiliary.
4. Recognize and discuss word components, terms, and abbreviations related to the dental profession.
a. Utilize dental and medical terminology as related to the dental practice.
b. Develop and use a professional vocabulary in speaking and writing.

STANDARDS

Dental Assisting National Board Certified Dental Assistant Examination Topics

None

Related Academic Standards

- R1 Interpret Graphic Information (forms, maps, reference sources)
- R2 Words in Context (same and opposite meaning)
- R3 Recall Information (details, sequence)
- R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause/effect)
- R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
- M1 Addition of Whole Numbers (no regrouping, regrouping)
- M2 Subtraction of Whole Numbers (no regrouping, regrouping)
- M3 Multiplication of Whole Numbers (no regrouping, regrouping)
- M4 Division of Whole Numbers (no remainder, remainder)
- M5 Decimals (addition, subtraction, multiplication, division)
- M6 Fractions (addition, subtraction, multiplication, division)
- M7 Integers (addition, subtraction, multiplication, division)
- M8 Percents
- M9 Algebraic Operations
- A1 Numeration (ordering, place value, scientific notation)
- A2 Number Theory (ratio, proportion)
- A3 Data Interpretation (graph, table, chart, diagram)
- A4 Pre-Algebra and Algebra (equations, inequality)
- A5 Measurement (money, time, temperature, length, area, volume)
- A6 Geometry (angles, Pythagorean theory)
- A7 Computation in Context (whole numbers, decimals, fractions, algebraic operations)
- A8 Estimation (rounding, estimation)
- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
- L2 Sentence Formation (fragments, run-on, clarity)
- L3 Paragraph Development (topic sentence, supporting sentence, sequence)
- L4 Capitalization (proper noun, titles)
- L5 Punctuation (comma, semicolon)
- L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)
- S1 Vowel (short, long)
- S2 Consonant (variant spelling, silent letter)

S3 Structural Unit (root, suffix)

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21st Century Skills

CS4 Health Literacy

CS8 Communication and Collaboration

SUGGESTED REFERENCES

Anderson, P. C., & Pendleton, A. E. (2001). *The dental assistant* (7th ed.). Albany, NY: Delmar.

Andujo, E. (2003). *Complete review of dental assisting*. Upper Saddle River, NJ: Prentice Hall.

Bird, D., & Robinson, D. (2008). *Torres and Ehrlich modern dental assisting* (9th ed.). Philadelphia: Saunders.

Bird, D., & Robinson, D. (2008). *Student workbook to accompany Torres and Ehrlich modern dental assisting* (9th ed.). Philadelphia: Saunders.

Finkbeiner, B. L. (Ed.). (2008). *Review questions and answers for dental assisting*. St. Louis, MO: Mosby.

Mosby. (2007). *Mosby's dental dictionary* (2nd ed.). St. Louis, MO: Author.

Course Name: Dental Assisting Materials

Course Abbreviation: DAT 1214

Classification: Career–Technical Core

Description: Dental safety precautions will be emphasized. Includes a comprehensive study of the physical and chemical properties of dental materials. Lab sessions include measuring, manipulating, and preparing dental materials for use in the dental operator and dental laboratory. (4 sch: 2-hr lecture, 4-hr lab)

Corequisites: All first semester courses

Competencies and Suggested Objectives	
1. Relate safety requirements for handling dental materials and equipment. ^(CDA11)	<ul style="list-style-type: none"> a. Comply with safety regulations at all times. b. Discuss disposal of hazardous wastes, including mercury, according to the local, state, and federal regulations. c. State the function and handling of mercury. d. Discuss use of a special light for light activated composite resin. e. Describe the disinfection of an impression.
2. Identify various dental materials. ^(CDA14, CDA15)	<ul style="list-style-type: none"> a. Survey the types of dental restorations. b. Classify the restorative materials as permanent, temporary, or intermediary bases. c. Cite the physical and biological considerations for selecting dental materials. d. Describe physical, electrical, and mechanical properties of dental materials in definable terms.
3. Describe characteristics of gypsum products. ^(CDA14, CDA15)	<ul style="list-style-type: none"> a. Define model, cast, and die. b. Identify the classes of gypsum products. c. Discuss the physical and chemical properties of gypsum products. d. Discuss manipulation of gypsum products.
4. Describe the uses and properties of preventive dental materials. ^(CDA14, CDA15)	<ul style="list-style-type: none"> a. Discuss the preventive dental materials: <ul style="list-style-type: none"> i. Fluoride ii. Pit and fissure sealants iii. Mouth protectors iv. Desensitizers b. List the armamentarium for the finishing and polishing procedures for preventive dental materials. c. Describe the finishing and polishing techniques for preventive dental materials.
5. Explain characteristics of dental cements and liners. ^(CDA14, CDA15)	<ul style="list-style-type: none"> a. Summarize the uses of various dental cements, i.e., cementation, base, temporary restorations, liners, and varnish. b. List the cements suitable for cementation and the composition, properties, and manipulation of each:

<ul style="list-style-type: none"> i. Zinc phosphate ii. Zinc oxide eugenol iii. Zinc polycarboxylate iv. Glass ionomer c. List the cements suitable for bases and temporary fillings and the properties and manipulation of each: <ul style="list-style-type: none"> i. Zinc oxide eugenol ii. Calcium hydroxide d. Differentiate between cavity liner and varnish. e. Discuss the cements used for special applications.
<p>6. Discuss the uses and properties of dental waxes. (CDA14, CDA15)</p> <ul style="list-style-type: none"> a. Explain the properties and laboratory use of inlay wax. b. Describe other dental waxes and their uses.
<p>7. Discuss the uses and properties of plastics in dentistry. (CDA14, CDA15)</p> <ul style="list-style-type: none"> a. Describe the use of plastics used in prosthetics. b. List the types of direct esthetic restorative material. c. State the composition, setting reaction, properties, and manipulation of unfilled resin. d. Compare the composition and reactions of composite resins. e. Discuss the properties and clinical qualities of composite resins. f. Describe the manipulation of each type of composite resin. g. Explain the ionomers as restorative materials. h. List the armamentarium for the finishing and polishing techniques for plastic dental materials. i. Describe the finishing and polishing techniques for plastic dental materials.
<p>8. Describe the uses and properties of precious and non-precious metals. (CDA14, CDA15)</p> <ul style="list-style-type: none"> a. Explain the types and properties of pure gold. b. List the constituents of a gold alloy and the effect of each constituent. c. Describe each of the four types of gold alloys. d. Explain the composition, uses, and general properties of non-precious alloys. e. List the armamentarium for finishing and polishing techniques. f. Describe the finishing and polishing techniques for precious and non-precious metal dental materials.
<p>9. Discuss the properties of amalgam. (CDA14)</p> <ul style="list-style-type: none"> a. Explain amalgam and its clinical uses. b. State the function of mercury. c. List the composition of amalgam alloys. d. Explain the properties of amalgam: <ul style="list-style-type: none"> i. Dimensional change ii. Strength iii. Creep iv. Tarnish and corrosion e. Discuss the correct manipulation of amalgam: <ul style="list-style-type: none"> i. Selection ii. Proportioning iii. Mixing iv. Condensation

<ul style="list-style-type: none"> v. Finishing f. List the armamentarium for finishing and polishing techniques. g. Describe the finishing and polishing techniques for amalgam dental materials.
<p>10. Describe the uses and properties of impression materials. (CDA14, CDA15)</p> <ul style="list-style-type: none"> a. List the desirable properties of impression materials. b. Classify impression materials as rigid or flexible. c. State the composition, properties, and use of the following impression materials: <ul style="list-style-type: none"> i. Impression compound ii. ZOE impression paste iii. Agar hydrocolloid iv. Alginate v. Polysulfide rubber vi. Silicone rubber vii. Polyether rubber d. Describe the steps and supplies necessary to manipulate and take an impression with the following materials: <ul style="list-style-type: none"> i. Impression compound ii. ZOE impression paste iii. Agar hydrocolloid iv. Alginate v. Rubber materials <ul style="list-style-type: none"> (1) Polysulfide (2) Silicone/polysiloxane (3) Polyether
<p>11. Demonstrate manipulation of gypsum products. (CDA14, CDA15)</p> <ul style="list-style-type: none"> a. Measure gypsum and water for pouring a study model impression. b. Assemble armamentarium for mixing a gypsum product. c. Mix a gypsum product for a cast, a die, and a model.
<p>12. Demonstrate manipulation of dental cements and liners. (CDA14)</p> <ul style="list-style-type: none"> a. Select armamentarium necessary to prepare a mix of zinc phosphate. b. Prepare a mix of zinc phosphate cement for (1) a luting agent and (2) cement base. c. Select armamentarium necessary to prepare a mix of zinc oxide eugenol (conventional type) and reinforced. d. Prepare a mix of conventional zinc oxide eugenol to be used for (1) a base and (2) treatment filling. e. Prepare a mix of reinforced zinc oxide eugenol for (1) luting, (2) base, and (3) treatment filling. f. Select armamentarium necessary to prepare a mix of polycarboxylate cement. g. Prepare a mix of polycarboxylate cement for luting. h. Select armamentarium for mixing glass ionomer cement. i. Prepare a mix of glass ionomer cement for luting. j. Select equipment and materials necessary to prepare a mix of calcium hydroxide. k. Prepare a calcium hydroxide liner. l. Assemble the armamentarium for the placement of a cavity varnish or base.
<p>13. Describe various dental waxes. (CDA15)</p> <ul style="list-style-type: none"> a. Identify various types of processing waxes.

- | |
|---|
| 14. Demonstrate manipulation of dental plastics. ^(CDA15) |
| <ul style="list-style-type: none"> a. Prepare the equipment and materials required to mix composite resin with 100% accuracy. b. Produce a mix of composite resin. c. Prepare materials to be used with composite resin, acid etching agents, bonding agent, and lights. d. Prepare a mix of autopolymerizing composite resin. e. Prepare a mix of light activated composite resin. f. Demonstrate proper use of a special light for light activated composite resin. |
| 15. Demonstrate manipulation of dental amalgam. ^(CDA15) |
| <ul style="list-style-type: none"> a. Prepare the equipment and materials required to manipulate amalgam mechanically with 100% accuracy. b. Produce a mix of amalgam (pre-measured capsules). |
| 16. Demonstrate manipulation of impression materials. ^(CDA15) |
| <ul style="list-style-type: none"> a. Select the necessary equipment and materials to prepare irreversible hydrocolloid (alginate). b. Mix alginate impression material. c. Take an impression of a typodont using alginate material. d. Construct sets of study models using gypsum products. e. Trim sets of study models. f. Select the necessary equipment and material for the preparation of rubber impression materials. g. Prepare a mix of rubber impression material (polysiloxane, silicone, polysulfide, and polyether). h. Load the syringe with light-bodied rubber impression material and prepare the companion tray material. i. Take an impression of a typodont using rubber impression material. |

STANDARDS

Dental Assisting National Board Certified Dental Assistant Examination Topics

Infection Control

CDA11 Occupational safety

General Chairside

CDA14 Chairside dental materials (preparation, manipulation, and application)

CDA15 Lab materials and procedures

Related Academic Standards

- R1 Interpret Graphic Information (forms, maps, reference sources)
- R2 Words in Context (same and opposite meaning)
- R3 Recall Information (details, sequence)
- R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause/effect)
- R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)

- M1 Addition of Whole Numbers (no regrouping, regrouping)
- M2 Subtraction of Whole Numbers (no regrouping, regrouping)
- M3 Multiplication of Whole Numbers (no regrouping, regrouping)
- M4 Division of Whole Numbers (no remainder, remainder)
- M5 Decimals (addition, subtraction, multiplication, division)
- M6 Fractions (addition, subtraction, multiplication, division)
- M7 Integers (addition, subtraction, multiplication, division)
- M8 Percents
- M9 Algebraic Operations
- A1 Numeration (ordering, place value, scientific notation)
- A2 Number Theory (ratio, proportion)
- A3 Data Interpretation (graph, table, chart, diagram)
- A4 Pre-Algebra and Algebra (equations, inequality)
- A5 Measurement (money, time, temperature, length, area, volume)
- A6 Geometry (angles, Pythagorean theory)
- A7 Computation in Context (whole numbers, decimals, fractions, algebraic operations)
- A8 Estimation (rounding, estimation)
- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
- L2 Sentence Formation (fragments, run-on, clarity)
- L3 Paragraph Development (topic sentence, supporting sentence, sequence)
- L4 Capitalization (proper noun, titles)
- L5 Punctuation (comma, semicolon)
- L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)
- S1 Vowel (short, long)
- S2 Consonant (variant spelling, silent letter)
- S3 Structural Unit (root, suffix)

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21st Century Skills

- CS4 Health Literacy
- CS5 Environmental Literacy
- CS8 Communication and Collaboration
- CS15 Productivity and Accountability
- CS16 Leadership and Responsibility

SUGGESTED REFERENCES

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- Vanable, E.D. & LoPresti, L.R. (2003). *Using dental materials*. Upper Saddle River, NJ: Prentice Hall.

Course Name: Dental Science I

Course Abbreviation: DAT 1313

Classification: Career–Technical Core

Description: Physiology, anatomy, and morphology as related to the oral cavity. Content organized to include a study of the body systems, the anatomy of the head and neck, and the form of each of the 32 teeth. (3 sch: 3-hr lecture)

Corequisites: All first semester courses

Competencies and Suggested Objectives	
1. Describe primary and permanent dentition. ^(CDA3, CDA12)	<ul style="list-style-type: none"> a. Name the individual teeth (primary and secondary) and their proper position. b. Indicate how position relates to dental numbering systems. c. Describe the four groups of teeth and the general functions of each group. d. Describe the five surfaces of both anterior and posterior teeth. e. Identify point and line angles, contact areas, and embrasure areas of the teeth. f. Identify the structures of the crown surfaces of the teeth. g. Name the major parts of the teeth. h. Locate parts of the teeth on a teaching model. i. Describe the differentiating characteristics of the maxillary teeth. j. Describe the differentiating characteristics of the mandibular teeth. k. Discuss occlusion and maintenance of tooth position. l. Identify succedaneous and non-succedaneous teeth.
2. Illustrate the anatomy of a tooth. ^(CDA3, CDA12)	<ul style="list-style-type: none"> a. Identify the parts of a Boley gauge. b. Demonstrate the use of a Boley gauge.
3. Describe the anatomy and physiology of the head and neck. ^(CDA3, CDA12)	<ul style="list-style-type: none"> a. Identify the bones that are anatomical landmarks of the cranium. b. Identify the bones that form the skeleton of the face. c. Identify the major anatomical landmarks of the mandible. d. Identify the temporomandibular joint. e. Discuss the function of the temporomandibular joint. f. Describe the muscles of mastication and the function of each. g. Locate the paranasal sinuses. h. Describe the function of the paranasal sinuses. i. Identify the major anatomical landmarks of the hard palate. j. Identify the anatomical landmarks of the mouth. k. Locate the salivary glands and ducts. l. Identify the trigeminal nerve and trace the nerve supply to the individual teeth. m. Identify the arteries and veins that supply the head and neck region. n. Explain the circulation of blood supply from the heart to the teeth.
4. Describe the relationships of body systems to the dental patient. ^(CDA3, CDA12)	<ul style="list-style-type: none"> a. Relate the importance of basic sciences to dental assisting.

- b. Define anatomy and physiology.
- c. Define terms that are used to describe the position of body parts.
- d. Describe the general composition of the body.
- e. Identify the four body cavities.
- f. Describe the major organs included in each body cavity.
- g. List the components and functions of the skeletal system.
- h. List the components and functions of the muscular system.
- i. List the components and functions of the nervous system.
- j. List the components and functions of the circulatory system.
- k. List the components and functions of the respiratory system.
- l. List the components and functions of the digestive system.
- m. List the components and functions of the integumentary system.
- n. List the components and functions of the endocrine system.
- o. List the components and functions of the reproductive system.

STANDARDS

Dental Assisting National Board Certified Dental Assistant Examination Topics

Radiation Health and Safety

CDA3 Mount/label

General Chairside

CDA12 Collection and recording of clinical data

Related Academic Standards

- R1 Interpret Graphic Information (forms, maps, reference sources)
- R2 Words in Context (same and opposite meaning)
- R3 Recall Information (details, sequence)
- R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause/effect)
- R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
- M1 Addition of Whole Numbers (no regrouping, regrouping)
- M2 Subtraction of Whole Numbers (no regrouping, regrouping)
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- M4 Division of Whole Numbers (no remainder, remainder)
- M5 Decimals (addition, subtraction, multiplication, division)
- M6 Fractions (addition, subtraction, multiplication, division)
- M7 Integers (addition, subtraction, multiplication, division)
- M8 Percents
- M9 Algebraic Operations
- A1 Numeration (ordering, place value, scientific notation)
- A2 Number Theory (ratio, proportion)
- A3 Data Interpretation (graph, table, chart, diagram)
- A4 Pre-Algebra and Algebra (equations, inequality)
- A5 Measurement (money, time, temperature, length, area, volume)

- A6 Geometry (angles, Pythagorean theory)
- A7 Computation in Context (whole numbers, decimals, fractions, algebraic operations)
- A8 Estimation (rounding, estimation)
- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
- L2 Sentence Formation (fragments, run-on, clarity)
- L3 Paragraph Development (topic sentence, supporting sentence, sequence)
- L4 Capitalization (proper noun, titles)
- L5 Punctuation (comma, semicolon)
- L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)
- S1 Vowel (short, long)
- S2 Consonant (variant spelling, silent letter)
- S3 Structural Unit (root, suffix)

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21st Century Skills

- CS4 Health Literacy
- CS8 Communication and Collaboration

SUGGESTED REFERENCES

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Mosby. (2007). *Mosby's dental dictionary* (2nd ed.). St. Louis, MO: Author.

Norton, N.S. (2006). *Netter's head and neck anatomy for dentistry*. Philadelphia: Saunders.

Course Name: Dental Science II

Course Abbreviation: DAT 1323

Classification: Career–Technical Core

Description: Embryology, pharmacology, microbiology, and pathology as related to dentistry. Content organized to give the student basic information required for effective dental assisting. (3 sch: 3-hr lecture)

Prerequisites: All first semester courses

Competencies and Suggested Objectives	
1.	Discuss embryology as related to dentistry. (CDA3, CDA12, CDA16)
a.	State the function of the following components of a cell:
i.	Nucleus
ii.	Cytoplasm
iii.	Cell membrane
iv.	Ribosomes
v.	Mitochondria
vi.	Centrioles
vii.	Golgi body
viii.	Chromatin (chromosomes)
ix.	Lysosomes
b.	Describe the various functions of cells including the usage of nucleic acids (DNA and RNA).
c.	Explain the differences between mitosis and meiosis by stating and drawing the various stages of each process.
d.	State the characteristics and functions of the four primary types of human tissue.
e.	Name the three basic embryonic cell layers and the structures that form each.
f.	Discuss the branchial arches and the structures that form each of the arches.
g.	Discuss the processes in the early development of the nose and face.
h.	Discuss the early development of the tongue and palate.
i.	Discuss the factors that can affect prenatal development.
j.	Discuss each stage of tooth development.
k.	Discuss the composition and formation of the four major tissues of the teeth.
l.	Discuss the formation of the tissues surrounding the teeth.
m.	Discuss eruption problems.
n.	Discuss the process of eruption of the teeth.
o.	Discuss the eruption sequence for the primary teeth and the approximate ages for each primary tooth erupting into the oral cavity.
p.	Discuss the development of succedaneous teeth.
q.	Discuss the eruption sequence for the permanent teeth and the approximate ages for each erupted permanent tooth.
2.	Discuss pharmacology as related to dentistry. (CDA12, CDA13, CDA16, CDA17)
a.	Define pharmacology.

- b. Describe the different parts of the Controlled Substances Act as follows:
 - i. Schedule I
 - ii. Schedule II
 - iii. Schedule III
 - iv. Schedule IV
 - v. Schedule V
- c. State the difference between generic drugs and brand name drugs.
- d. Identify the parts of a prescription and the purpose of each.
- e. Explain the purpose of a prescription.
- f. Identify the English equivalents of the Latin abbreviations used on a prescription.
- g. Discuss the differences between methods of administering drugs.
- h. Identify two methods of drug calculation.
- i. Identify three factors in a dental office that can lead to deterioration of medications and drugs.
- j. Define the terms associated with the effects of drugs on the body.
- k. Discuss the following drugs including indications and contraindications:
 - i. Analgesics
 - (1) Mild analgesics
 - (a) Aspirin
 - (b) Aspirin-like substitutes
 - (2) Strong analgesics
 - (a) Morphine
 - (b) Codeine
 - (c) Dilaudid
 - (d) Percodan
 - (e) Demerol
 - (f) Mepergan Fortis
 - ii. Antibiotics
 - (1) Penicillin
 - (2) Erythromycin
 - (3) Tetracycline
 - (4) Amoxicillin
 - iii. Miscellaneous drugs used in the dental office on patients
 - (1) Nystatin
 - (2) Vasoconstrictors
 - (3) Corticosteroids
 - (4) Atropine
 - (5) Hemostatic agents
 - (6) Topical anesthetics
 - (7) Local anesthetics
 - (8) Fluorides
 - (9) Dentifrices
 - (10) Nitrous oxide
 - (11) Sedatives
 - (a) Chloral hydrate
 - (b) Atarax

(c) Vistaril

1. State the purpose of the following drugs commonly seen on a patient's medical history:
 - i. Cardiovascular
 - ii. Anti-hypertensives
 - iii. Anti-anxiety
 - iv. Anti-depressants
 - v. Anti-coagulants
 - vi. Anti-inflammatory
 - vii. Anti-convulsants
 - viii. Anti-diabetics
 - ix. Antihistimine
 - x. Anti-thyroid
 - xi. Antacids
 - xii. Narcotic Analgesics
 - xiii. Antibiotics
- m. Identify the brand names and chemical names of commonly used local anesthetics in the dental office.

3. Discuss microbiology as related to dentistry. (CDA6, CDA7, CDA8, CDA9, CDA10, CDA11)
 - a. Describe the major events of the history of microbiology.
 - b. Explain the five different types of microorganisms and the physical characteristics of each (protozoa, bacteria, fungi, virus, rickettsia).
 - c. Identify the major parts of a microscope and the proper care and use of the scope.
 - d. Prepare a mouth smear.
 - e. Identify the three shapes of bacteria using prepared slides and the microscope.
 - f. List methods by which microorganisms produce disease.
 - g. Define terms associated with pathogenic and non-pathogenic microorganisms.
 - h. Discuss methods by which disease may be transmitted in a dental office.
 - i. Discuss resistance to infection by the host and related terms.
 - j. Define inflammation and the signs related to inflammation.
 - k. Discuss microorganisms associated with dental caries, periodontal problems, and pulp conditions.

4. Discuss oral pathology as related to dentistry. (CDA12, CDA13, CDA16)
 - a. Define the three factors which cause oral disorders.
 - b. Discuss reaction of tissue to injury, and the behavior of cells and the structural changes that result from injury.
 - c. Describe distinguishing characteristics of developmental anomalies that occur in the oral cavity.
 - d. Describe characteristics of developmental anomalies that occur in tooth development.
 - e. Define terms describing hard tissue defects that may occur during tooth formation.
 - f. Define terms relative to pathological conditions that occur after the teeth have erupted.
 - g. Explain the pathological and developmental conditions of dental caries as characterized by decalcification and microbial invasion.
 - h. Describe dental pulp disorders by defining given terms and stating the conditions and treatment of the disorder.
 - i. Write a descriptive account of periodontal conditions.
 - j. Define the terms related to oral mucous membrane conditions.

- k. Discuss conditions that are caused by viral infections.
- l. Describe canker sores and the causative agent.
- m. Identify diseases caused by fungus infections.
- n. Define benign neoplasm.
- o. Define malignant neoplasms.
- p. Prepare a report on oral cancer.
- q. Discuss oral pigmentation, traumatic, thermal, and chemical injuries to the teeth and related structures.

STANDARDS

Dental Assisting National Board Certified Dental Assistant Examination Topics

Radiation Health and Safety

CDA3 Mount/label

Infection Control

CDA6 Patient and dental healthcare worker education

CDA7 Prevent cross-contamination and transmission

CDA8 Maintain aseptic conditions

CDA9 Perform sterilization procedures

CDA10 Environmental asepsis

CDA11 Occupational safety

General Chairside

CDA12 Collection and recording of clinical data

CDA13 Chairside dental procedures

CDA16 Patient education and oral health management

CDA17 Prevention and management of emergencies

Related Academic Standards

- R1 Interpret Graphic Information (forms, maps, reference sources)
- R2 Words in Context (same and opposite meaning)
- R3 Recall Information (details, sequence)
- R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause/effect)
- R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
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- M7 Integers (addition, subtraction, multiplication, division)
- M8 Percents
- M9 Algebraic Operations
- A1 Numeration (ordering, place value, scientific notation)

- A2 Number Theory (ratio, proportion)
- A3 Data Interpretation (graph, table, chart, diagram)
- A4 Pre-Algebra and Algebra (equations, inequality)
- A5 Measurement (money, time, temperature, length, area, volume)
- A6 Geometry (angles, Pythagorean theory)
- A7 Computation in Context (whole numbers, decimals, fractions, algebraic operations)
- A8 Estimation (rounding, estimation)
- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
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21st Century Skills

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- CS8 Communication and Collaboration

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Physician's desk reference (64th ed.). (2009). Stamford, CT: Thomson Healthcare.

Course Name: Chairside Assisting I

Course Abbreviation: DAT 1415

Classification: Career–Technical Core

Description: Comprehensive study of information relating to assisting at the dental chair. Laboratory sessions include all phases of chairside assisting from seating the patient to post-operative care in the treatment room. (5 sch: 2-hr lecture, 6-hr lab)

Corequisites: All first semester courses, CPR certification-Healthcare Provider level

Competencies and Suggested Objectives	
1. Describe infection control procedures in a preclinic setting. (CDA6, CDA7, CDA8, CDA9, CDA10, CDA11)	<ul style="list-style-type: none"> a. Explain safety procedures for preclinical setting. b. Define terms related to sterilization. c. Describe methods used in a dental office to disinfect or sterilize. d. Differentiate between the different levels of EPA-approved chemical disinfectants. e. State the importance of infection control. f. Describe the various modes of disease transmission. g. State the various factors related to disease producing capabilities. h. Define terms related to infection control. i. Differentiate between HBV and HIV. j. State OSHA guidelines regarding standard operating procedures for infection control. k. Describe barrier techniques.
2. Demonstrate infection control procedures in a preclinic setting. (CDA6, CDA7, CDA8, CDA9, CDA10, CDA11)	<ul style="list-style-type: none"> a. Demonstrate handwashing technique. b. Prepare instruments for sterilization and storage. c. Demonstrate barrier placement. d. Demonstrate handling of instruments to maintain asepsis.
3. Assess patient data. (CDA12, CDA17)	<ul style="list-style-type: none"> a. State the importance of taking an accurate medical and dental history. b. Recognize the vital signs of the patient: <ul style="list-style-type: none"> i. Pulse ii. Respiration rate iii. Blood pressure iv. Temperature v. Pupils of the eyes vi. State of consciousness vii. Ability to move extremities viii. Reaction to pain c. Identify the equipment for measuring the vital signs. d. Measure the following: <ul style="list-style-type: none"> i. Pulse

<ul style="list-style-type: none"> ii. Temperature iii. Blood pressure iv. Respiration rate e. Record the following: <ul style="list-style-type: none"> i. Pulse ii. Temperature iii. Blood pressure iv. Respiration rate
<p>4. Describe the role of the assistant in chairside emergencies. ^(CDA12, CDA17)</p> <ul style="list-style-type: none"> a. Describe the contents of the emergency kit and other emergency equipment and their use. b. Describe the role in providing first aid for the following medical emergencies: <ul style="list-style-type: none"> i. Shock (all types) ii. Pulmonary arrest iii. Cardiac arrest iv. Diabetes mellitus v. Hypoglycemia vi. Epilepsy vii. Drug addiction viii. Angina pectoris ix. Heart attack x. Heart failure xi. Apoplexy xii. Choking xiii. Fainting c. Discuss emergencies of dental origin and their treatment.
<p>5. Describe the equipment in a dental office. ^(CDA13, CDA15)</p> <ul style="list-style-type: none"> a. Identify the major components of a dental operating chair. b. Describe the procedures in performing minor adjustments on the chair. c. Identify the component parts of the dental unit. d. Identify other major equipment in the dental laboratory. e. Explain the use of each piece of equipment. f. Demonstrate how to perform required maintenance on the dental operating unit and light.
<p>6. Demonstrate the use of selected equipment found in a dental office. ^(CDA7, CDA8, CDA9, CDA13)</p> <ul style="list-style-type: none"> a. Perform the steps involved in the proper care of the dental operating chair. b. Demonstrate the use of the various levers and switches found on the chair. c. Demonstrate air and water technique to the operating field without injuring tissue or impairing the vision of the operator. d. Position the evacuator tip for operating on the quadrants and for buccal, labial, and lingual approach without impairing the vision of the operator and without injuring the soft tissue. e. Demonstrate the proper placement of the saliva ejector. f. Demonstrate the use of sterilizers. g. Position the patient comfortably in the dental chair for operating on teeth in each of the quadrants.

<ul style="list-style-type: none"> h. Adjust the operating stools for the dentist and assistant. i. Demonstrate the positions of the patient, operator, and assistant during four-handed operative dentistry.
<p>7. Explain the role of the assistant in four-handed dentistry. (CDA7, CDA8, CDA9, CDA13)</p> <ul style="list-style-type: none"> a. Describe the role of each of the following in providing chairside dental care: <ul style="list-style-type: none"> i. Dental assistant ii. Dentist b. Describe the general duties to be performed in the morning in preparation for the first patient, in preparing patient for treatment, in dismissing the patient, and the end-of-the-day responsibilities. c. Discuss the concept of dental assisting in four-handed dentistry technique. d. Relate duties performed by the dental assistant during an oral prophylaxis. e. Describe how the dental assistant anticipates the need for instruments used during an oral prophylaxis by the operator. f. Demonstrate the role of the assistant in the amalgam procedure. g. Demonstrate the role of the assistant in a composite procedure.
<p>8. Demonstrate the use of hand instruments. (CDA7, CDA8, CDA9, CDA13)</p> <ul style="list-style-type: none"> a. Demonstrate the various techniques used in the transfer of hand instruments. b. Identify the parts of cutting and non-cutting hand instruments. c. Demonstrate the principal instrument grasps used in four-handed dentistry. d. Demonstrate the pass-and-receive technique for four-handed dentistry. e. Demonstrate manipulation of medicaments for use during dental procedures. f. Apply a mirror, a tongue depressor, or a retractor to the cheek for operation on the quadrants without impairing the vision of the operator and without injury or discomfort to the patient. g. List the instruments and steps involved in conducting an oral examination. h. Describe instruments used in restorative and operative dentistry.
<p>9. Explain the use of rotary instruments. (CDA7, CDA8, CDA9, CDA13)</p> <ul style="list-style-type: none"> a. Assemble and disassemble the straight handpiece. b. Explain the use and maintenance of the prophylaxis handpiece. c. Explain the various rotary cutting instruments and methods of identification. d. Explain the various sections and maintenance of the angle handpiece. e. Discuss the reasons for using ultra speed equipment and its maintenance.
<p>10. Implement charting techniques. (CDA7, CDA8, CDA9, CDA12, CDA13)</p> <ul style="list-style-type: none"> a. Describe the various types of teeth by arch, quadrant, and position. b. Utilize the Universal Numbering System in identifying teeth. c. Describe symbols used in charting. d. Classify cavities according to their location. e. Chart existing restorations on both a permanent and deciduous chart. f. Chart cavities and any treatment needed by the patient on both permanent and deciduous charts.
<p>11. Demonstrate the procedure for local anesthesia. (CDA7, CDA8, CDA11, CDA12, CDA13, CDA17)</p> <ul style="list-style-type: none"> a. Prepare anesthetic setup. b. Demonstrate the dental assistant's role in administering local anesthesia.
<p>12. Demonstrate the amalgam procedure. (CDA7, CDA8, CDA10, CDA11, CDA13, CDA14)</p> <ul style="list-style-type: none"> a. Define operative dentistry and its functions.

<ul style="list-style-type: none"> b. Demonstrate the steps, in sequence, of cavity preparation. c. Demonstrate the steps involved in placing amalgam restorations. d. Demonstrate assembly and placement of a matrix band on a tyodont. e. Demonstrate the steps and instruments, in sequence, used to complete an amalgam restoration. f. Demonstrate the steps and instruments, in sequence, for polishing amalgam restorations.
<p>13. Demonstrate the composite procedure. ^(CDA7, CDA8, CDA10, CDA11, CDA13, CDA14)</p> <ul style="list-style-type: none"> a. Demonstrate the uses of the various instruments used in composite resin restorations. b. Demonstrate the steps, in sequence, involved in a composite resin procedure.
<p>14. Demonstrate the procedure for a temporary restoration. ^(CDA7, CDA8, CDA10, CDA11, CDA13, CDA14)</p> <ul style="list-style-type: none"> a. Describe the instruments and materials needed for placing a temporary restoration. b. Place and remove a temporary restoration using hand instruments.

STANDARDS

Dental Assisting National Board Certified Dental Assistant Examination Topics

Infection Control

- CDA6 Patient and dental healthcare worker education
- CDA7 Prevent cross-contamination and transmission
- CDA8 Maintain aseptic conditions
- CDA9 Perform sterilization procedures
- CDA10 Environmental asepsis
- CDA11 Occupational safety

General Chairside

- CDA12 Collection and recording of clinical data
- CDA13 Chairside dental procedures
- CDA14 Chairside dental materials (preparation, manipulation, and application)
- CDA15 Lab materials and procedures
- CDA17 Prevention and management of emergencies

Related Academic Standards

- R1 Interpret Graphic Information (forms, maps, reference sources)
- R2 Words in Context (same and opposite meaning)
- R3 Recall Information (details, sequence)
- R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause/effect)
- R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
- M1 Addition of Whole Numbers (no regrouping, regrouping)
- M2 Subtraction of Whole Numbers (no regrouping, regrouping)
- M3 Multiplication of Whole Numbers (no regrouping, regrouping)
- M4 Division of Whole Numbers (no remainder, remainder)
- M5 Decimals (addition, subtraction, multiplication, division)
- M6 Fractions (addition, subtraction, multiplication, division)

- M7 Integers (addition, subtraction, multiplication, division)
- M8 Percents
- M9 Algebraic Operations
- A1 Numeration (ordering, place value, scientific notation)
- A2 Number Theory (ratio, proportion)
- A3 Data Interpretation (graph, table, chart, diagram)
- A4 Pre-Algebra and Algebra (equations, inequality)
- A5 Measurement (money, time, temperature, length, area, volume)
- A6 Geometry (angles, Pythagorean theory)
- A7 Computation in Context (whole numbers, decimals, fractions, algebraic operations)
- A8 Estimation (rounding, estimation)
- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
- L2 Sentence Formation (fragments, run-on, clarity)
- L3 Paragraph Development (topic sentence, supporting sentence, sequence)
- L4 Capitalization (proper noun, titles)
- L5 Punctuation (comma, semicolon)
- L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)
- S1 Vowel (short, long)
- S2 Consonant (variant spelling, silent letter)
- S3 Structural Unit (root, suffix)

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21st Century Skills

- CS4 Health Literacy
- CS5 Environmental Literacy
- CS7 Critical Thinking and Problem Solving
- CS8 Communication and Collaboration
- CS9 Information Literacy
- CS11 ICT Literacy
- CS12 Flexibility and Adaptability
- CS14 Social and Cross-Cultural Skills
- CS15 Productivity and Accountability
- CS16 Leadership and Responsibility

SUGGESTED REFERENCES

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Organization for Safety, Asepsis, and Prevention (OSAP). (2004). *OSAP from policy to practice*. Annapolis, MD: Author.

Course Name: Chairside Assisting II

Course Abbreviation: DAT 1423

Classification: Career–Technical Core

Description: Continuation of the study of information related to assisting at the dental chair. Emphasis on techniques utilized in performing all dental procedures at the chair. Special consideration to assisting in the dental specialties. (3 sch: 2-hr lecture, 2-hr lab)

Prerequisites: Chairside Assisting I (DAT 1415)

Competencies and Suggested Objectives

1. Describe oral surgery procedures. (CDA7, CDA8, CDA9, CDA11, CDA12, CDA13, CDA16, CDA17)
 - a. List the stages of surgical procedures.
 - b. Perform preoperative preparation for oral surgery.
 - c. Describe the four planes of general anesthesia.
 - d. Differentiate between analgesic and anesthetic.
 - e. State the application of N₂O to dentistry.
 - f. State the necessary precautions applicable to N₂O and the dental office.
 - g. List the proper equipment necessary for N₂O administration in the office.
 - h. Describe the steps in N₂O administration.
 - i. Discuss appropriate care and storage of nitrous and oxygen tanks.
 - j. Describe the steps involved in the removal of maxillary and mandibular teeth.
 - k. Identify the type of instruments ordinarily used in the extraction of the maxillary and mandibular teeth.
 - l. Anticipate the need for the type of instruments ordinarily used by the dentist in the extraction of maxillary and mandibular teeth.
 - m. List the steps and instruments involved in the removal of impacted teeth.
 - n. Anticipate the need for the type of instruments ordinarily used by the dentist to remove impacted teeth.
 - o. List the steps and instruments used in placing a suture.
 - p. Demonstrate the removal of a suture.
 - q. Assist with and control minor bleeding after extraction or incision.
 - r. Assist with, mix, change, and remove post-extraction dressings.
 - s. List the conditions and instruments associated with a dry socket and the steps involved in treatment.
 - t. Identify the steps and instruments involved in frenectomy.
 - u. List the steps and instruments involved in the performance of an alveolectomy.
 - v. List the steps and instruments involved in a biopsy.
 - w. List the steps and instruments involved in removing a cyst.
 - x. List the major steps and instruments involved in the treatment of a jaw fracture.
 - y. State the causes, characteristics, and the stages of infection.
 - z. Give post-operative instructions to the patient.
 - aa. Provide care and storage of sterile and sterile disposable products.
 - bb. Recognize medications related to the patient's present and past medical and dental

<p>history.</p> <p>cc. Recognize signs and symptoms related to specific dental conditions and emergencies likely to occur in the office.</p>
<p>2. Describe periodontal procedures. (CDA7, CDA8, CDA9, CDA11, CDA12, CDA13, CDA16, CDA17)</p> <p>a. Discuss normal periodontium.</p> <p>b. List the diagnostic tools used in the evaluation of periodontal disease.</p> <p>c. Use plaque and gingival index to record symptoms of gingivitis.</p> <p>d. Discuss the local factors in the etiology of periodontal disease.</p> <p>e. Explain the factors involved in an oral prophylaxis and the information that should be given to the patient as to the need for the regular oral prophylaxis.</p> <p>f. Describe the incidence of calculus position and its removal.</p> <p>g. List the armamentarium needed for polishing the teeth following scaling.</p> <p>h. Demonstrate proper technique for polishing in a preclinical setting.</p> <p>i. Describe pericoronitis and its treatment.</p> <p>j. List the steps and instruments involved in subgingival curettage.</p> <p>k. List the steps and instruments needed in performing a gingivectomy.</p> <p>l. List the procedure for post-operative treatment of a gingivectomy.</p> <p>m. Assist with, mix, change, and remove periodontal surgical dressings and sedative dressings.</p> <p>n. Describe osseous corrective surgery.</p>
<p>3. Describe endodontic procedures. (CDA1, CDA7, CDA8, CDA9, CDA11, CDA12, CDA13, CDA16, CDA17)</p> <p>a. Describe the use of each item required in rubber dam application.</p> <p>b. List the steps and instruments involved in the application of the rubber dam.</p> <p>c. Place a rubber dam on a dentiform.</p> <p>d. Describe the most common endodontic procedures performed in the dental office.</p> <p>e. List traumatic injuries that may occur to teeth.</p> <p>f. List the names and clinical manifestations of dental pulp diseases.</p> <p>g. State the diagnostic method used in pulpal and periapical conditions.</p> <p>h. Perform a vitality test.</p> <p>i. Demonstrate isolation of teeth and control of saliva.</p> <p>j. Describe the use of root canal instruments.</p> <p>k. Discuss bacteriology as related to endodontics.</p> <p>l. State objectives and procedures used in pulp capping and pulpotomies.</p> <p>m. List the steps and instruments involved in root canal therapy for each phase of treatment.</p> <p>n. List the steps and instruments used in an apicoectomy.</p> <p>o. Describe the bleaching techniques.</p>

STANDARDS

Dental Assisting National Board Certified Dental Assistant Examination Topics

Radiation Health and Safety

CDA1 Expose and evaluate (intraoral and extraoral)

Infection Control

CDA7 Prevent cross-contamination and transmission

- CDA8 Maintain aseptic conditions
- CDA9 Perform sterilization procedures
- CDA11 Occupational safety
- General Chairside
- CDA12 Collection and recording of clinical data
- CDA13 Chairside dental procedures
- CDA16 Patient education and oral health management
- CDA17 Prevention and management of emergencies

Related Academic Standards

- R1 Interpret Graphic Information (forms, maps, reference sources)
- R2 Words in Context (same and opposite meaning)
- R3 Recall Information (details, sequence)
- R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause/effect)
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21st Century Skills

CS4 Health Literacy
 CS7 Critical Thinking and Problem Solving
 CS8 Communication and Collaboration
 CS9 Information Literacy
 CS11 ICT Literacy
 CS13 Initiative and Self-Direction
 CS14 Social and Cross-Cultural Skills
 CS15 Productivity and Accountability
 CS16 Leadership and Responsibility

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Course Name: Chairside Assisting III

Course Abbreviation: DAT 1433

Classification: Career–Technical Core

Description: Continuation of Chairside Assisting II. (3 sch: 2-hr lecture, 2-hr lab)

Prerequisites: Chairside Assisting II (DAT 1423)

Competencies and Suggested Objectives	
1. Describe the procedure for fixed prosthodontics. (CDA6, CDA7, CDA8, CDA9, CDA10, CDA11, CDA13, CDA14, CDA15, CDA16)	<ul style="list-style-type: none"> a. Describe the importance of fixed prosthesis. b. List types of crowns, bridges, types of facings, and materials used for fabrication. c. List the steps involved in crown and bridge fabrication. d. Make a preliminary impression. e. Pour the impression to the specification of the instructor. f. Given a set of poured models, separate, trim, and articulate the models. g. Using a prepared model, demonstrate the use of a vacuum former. h. Fabricate a custom tray and a temporary crown. i. Prepare an acrylic (custom) tray. j. Demonstrate the manipulation of final impression materials. k. Demonstrate the handling of a final impression following removal from the mouth. l. Explain the steps for making a removable die. m. Outline investment and casting procedures according to instructor's criteria. n. List the steps and instruments involved in the cementation of a fixed prosthesis.
2. Describe procedures for removable prosthodontics. (CDA7, CDA8, CDA11, CDA13, CDA14, CDA15, CDA16)	<ul style="list-style-type: none"> a. List the steps involved in the preliminary impression, final impression, registration of jaw relations, try-in, and insertion of a removable appliance. b. Explain the use of various armamentarium needed to accomplish steps involved in removable prostheses. c. Demonstrate the ability to prepare and assist with various armamentarium needed to accomplish steps involved in complete denture prosthesis. d. Describe the steps to repairing a broken appliance. e. Disinfect, clean and polish an appliance.
3. Describe procedures for pedodontics. (CDA13, CDA14, CDA16, CDA17)	<ul style="list-style-type: none"> a. Discuss pedodontics. b. Discuss the primary dentition. c. Discuss pedodontic practice management. d. Relate behavior patterns of the child to the dental office. e. Discuss growth and development in stages of 1-6 years and 6-12 years. f. Explain patient management techniques for handicapped and problem patients. g. State the role of the parent in successful pedodontic procedures. h. Discuss the role of the dental assistant in the first appointment and consultation.

- i. State the importance of preventive dentistry for children.
 - j. Demonstrate topical fluoride application.
 - k. Explain the various modalities of fluoride administration and the dangers and results of overdosage.
 - l. Demonstrate the use of pit and fissure sealants.
 - m. Discuss the assistant's role in operative pedodontics.
 - n. List the steps and instruments involved in stainless steel crown placement.
 - o. Explain the procedure involved in pulp therapy (pulp capping and pulpotomy).
 - p. Assemble the proper armamentarium for endodontic procedures performed in pedodontics.
 - q. State the importance of prosthetics in pedodontics.
 - r. Describe the proper prosthetic procedures in the pedodontic office.
 - s. Discuss procedures used in emergency treatment for traumatized teeth.
4. Describe procedures for orthodontics. ^(CDA12, CDA13, CDA14, CDA16)
- a. Discuss orthodontics and the goals that orthodontists strive to achieve.
 - b. Discuss the history of orthodontics.
 - c. Discuss etiology as it pertains to orthodontics.
 - d. Review embryology and histology relating to the formation of the skull and facial complex.
 - e. Define diagnosis, occlusion, and malocclusion.
 - f. State the classification of malocclusion according to Dr. Angle.
 - g. Discuss the diagnostic aids used by the orthodontist in treatment planning.
 - h. Describe the principles of tooth movement.
 - i. Describe types of orthodontic appliances used in treatment.
 - j. Identify instruments and equipment used in orthodontic treatment.
 - k. Discuss responsibilities of the patient and parent during treatment.
 - l. Describe the removal of cement after a permanent appliance is removed.

STANDARDS

Dental Assisting National Board Certified Dental Assistant Examination Topics

Infection Control

- CDA6 Patient and dental healthcare worker education
- CDA7 Prevent cross-contamination and transmission
- CDA8 Maintain aseptic conditions
- CDA9 Perform sterilization procedures
- CDA10 Environmental asepsis
- CDA11 Occupational safety

General Chairside

- CDA12 Collection and recording of clinical data
- CDA13 Chairside dental procedures
- CDA14 Chairside dental materials (preparation, manipulation, and application)
- CDA15 Lab materials and procedures
- CDA16 Patient education and oral health management
- CDA17 Prevention and management of emergencies

Related Academic Standards

- R1 Interpret Graphic Information (forms, maps, reference sources)
- R2 Words in Context (same and opposite meaning)
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- M9 Algebraic Operations
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- A4 Pre-Algebra and Algebra (equations, inequality)
- A5 Measurement (money, time, temperature, length, area, volume)
- A6 Geometry (angles, Pythagorean theory)
- A7 Computation in Context (whole numbers, decimals, fractions, algebraic operations)
- A8 Estimation (rounding, estimation)
- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
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21st Century Skills

- CS4 Health Literacy
- CS7 Critical Thinking and Problem Solving
- CS8 Communication and Collaboration
- CS9 Information Literacy
- CS11 ICT Literacy
- CS13 Initiative and Self-Direction
- CS14 Social and Cross-Cultural Skills

CS15 Productivity and Accountability

CS16 Leadership and Responsibility

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Course Name: Dental Radiology I

Course Abbreviation: DAT 1513

Classification: Career–Technical Core

Description: Principles and safety precautions in dental radiology. Laboratory sessions include positioning, exposing, processing, and mounting bite-wing, occlusal, and periapical dental radiographs on a manikin. (3 sch: 2-hr lecture, 2-hr lab)

Corequisites: All first semester courses

Competencies and Suggested Objectives	
1.	Describe the development of dental x-ray technology. ^(CDA4, CDA5) a. Identify the historical events in the discovery of x-rays. b. Discuss the people involved in the development of radiology.
2.	Describe safety factors in relation to radiation biology. ^(CDA4, CDA5) a. Answer questions patients most commonly ask about dental x-ray safety and procedures. b. Explain the principles of ionizing radiation. c. Describe the formation of ion pairs and the effects of ionizing radiation on living tissues. d. Define terms relating to radiation measurement. e. List the types of background radiation to which the population is exposed. f. Describe the differences between somatic and genetic tissues. g. List the body tissues according to their radiosensitivity. h. List long-term effects of radiation exposure. i. List the most common and earliest symptom of overexposure to radiation. j. Discuss the methods used for protection of the patient and the operator. k. Discuss radiological considerations used for pregnant patients and patients with a history of radiation therapy. l. Discuss the need for dental radiographs in oral diagnosis.
3.	Explain the properties of dental x-ray radiation. ^(CDA4, CDA5) a. Discuss electromagnetic radiation and the various types of radiations on the electromagnetic spectrum. b. Define the terms associated with electricity and how each relates to radiation production. c. Discuss the three types of radiation associated with dental x-rays. d. Describe the parts of an x-ray tubehead and the function of each part. e. Discuss in detail how x-rays are produced in the x-ray tubehead. f. Discuss the function and purpose of each of the controls on the control box of a dental x-ray machine. g. Discuss the terms milliamperage and kilovoltage, and the relationship among milliamperage, kilovoltage, quality, quantity, wavelength, and penetration of x-rays. h. Describe the effects of filtration and collimation on x-ray production. i. List the recommended filtration and collimation for x-ray machines operating at

<p>various kVp settings.</p> <p>j. Differentiate among density, contrast, detail, and distortion.</p> <p>k. Explain the factors that influence contrast, detail, density, and distortion.</p> <p>l. Discuss how target-to-film-distance (TFD) affects the image on a radiograph.</p> <p>m. Explain the inverse square law.</p>
<p>4. Discuss auxiliary techniques in patient management for exposing radiographs. ^(CDA4, CDA5)</p> <p>a. Discuss criteria involved in radiographing the mandibular and maxillary tori patient.</p> <p>b. Discuss techniques involved in radiographing narrow and cleft palate patients.</p> <p>c. Discuss techniques in radiographing children.</p> <p>d. Discuss techniques in radiographing edentulous patients.</p> <p>e. Discuss techniques used for taking x-rays on endodontic patients.</p> <p>f. Discuss techniques in exposing radiographs on handicapped patients.</p> <p>g. Discuss techniques used in radiographing patients with a gag reflex.</p> <p>h. Discuss criteria used in radiographing uncooperative patients.</p>
<p>5. Differentiate various types of x-ray films. ^(CDA4, CDA5)</p> <p>a. Discuss the various types of dental x-ray film (both intraoral and extraoral), the use of each, and the proper care and storage of each.</p> <p>b. Explain the speed rating of dental x-ray film by relating what determines film speed, the effect of fast speed film, and speed groups of A to F.</p> <p>c. Identify the purposes of the three most commonly used extraoral films.</p>
<p>6. Describe the techniques used in exposing intraoral radiographs. ^(CDA1, CDA2, CDA3, CDA4, CDA5)</p> <p>a. Discuss the techniques used in making intraoral radiographs.</p> <p>b. Describe the sensor/film holders used and the positioning of the patient and of the film.</p> <p>c. Demonstrate the positioning of the tubehead and the PID for each technique.</p> <p>d. Demonstrate the vertical and horizontal angulation needed for each technique.</p> <p>e. Identify the purposes and uses of bitewing films.</p> <p>f. Demonstrate the positioning of the bitewing film, including vertical and horizontal angulation.</p> <p>g. Demonstrate the procedure for positioning, exposing, and processing a full mouth series of radiographs.</p> <p>h. Identify unacceptable radiographs, the errors and their causes, and appropriate corrective action.</p> <p>i. Describe the need and procedure for exposing occlusal radiographs.</p> <p>j. Prepare operatory using infection control techniques.</p> <p>k. Expose film or digital sensors following infection control techniques.</p>
<p>7. Demonstrate the processing of dental film. ^(CDA2, CDA6, CDA7, CDA8, CDA9, CDA10, CDA11, CDA15)</p> <p>a. Describe the composition properties of an x-ray film.</p> <p>b. Discuss the essential components of a well-equipped darkroom.</p> <p>c. Discuss the chemistry of development, fixation, washing, and drying of exposed radiographs.</p> <p>d. Explain the purpose of each chemical in the processing solutions.</p> <p>e. Operate the darkroom apparatus and equipment by producing an acceptable processed film.</p> <p>f. List the times and temperatures for each of the solutions in manually processing an x-ray film.</p> <p>g. Clean and replenish the processing equipment and solutions.</p>

<ul style="list-style-type: none"> h. Identify processing errors and the corrective procedures for each. i. Describe the procedure for the use of an automatic processor. j. Describe the procedure of quick processing. k. Describe the procedure for duplicating radiographs. l. Demonstrate infection control procedures in the darkroom.
<p>8. Describe the techniques in capturing digital images. (CDA2, CDA6, CDA7, CDA8, CDA9, CDA10, CDA11, CDA15)</p> <ul style="list-style-type: none"> a. Demonstrate the placement, exposure, and mounting of digital images with the use of appropriate computer software and equipment. b. Discuss the use of digital radiography in a dental setting. c. Differentiate between the various digital imaging techniques.
<p>9. Identify normal anatomical landmarks used for mounting radiographs. (CDA3)</p> <ul style="list-style-type: none"> a. Identify maxillary and mandibular anatomical landmarks on a full mouth series of radiographs. b. Identify maxillary and mandibular anatomical landmarks on a panoramic radiograph. c. Mount radiographs in proper sequence using a full mouth series mount.
<p>10. Describe the techniques used in extraoral exposures. (CDA1, CDA2, CDA3, CDA4, CDA5, CDA7, CDA8, CDA11)</p> <ul style="list-style-type: none"> a. Describe the technique for positioning, exposing, and processing the most common extraoral exposures. b. Demonstrate the operation of the panoramic machine. c. Demonstrate the technique for positioning, exposing, and processing panoramic exposures on a patient. d. Discuss the settings for the panoramic machine on different types of patients. e. Prepare operatory using proper infection control techniques. f. Obtain a panoramic exposure following proper infection control techniques. g. Describe the role of computed tomography exposures in dentistry.

STANDARDS

Dental Assisting National Board Certified Dental Assistant Examination Topics

Radiation Health and Safety

- CDA1 Expose and evaluate (intraoral and extraoral)
- CDA2 Process
- CDA3 Mount/label
- CDA4 Radiation safety for patient
- CDA5 Radiation safety for operator

Infection Control

- CDA6 Patient and dental healthcare worker education
- CDA7 Prevent cross-contamination and transmission
- CDA8 Maintain aseptic conditions
- CDA9 Perform sterilization procedures
- CDA10 Environmental asepsis
- CDA11 Occupational safety

General Chairside

CDA15 Lab materials and procedures

Related Academic Standards

- R1 Interpret Graphic Information (forms, maps, reference sources)
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- M3 Multiplication of Whole Numbers (no regrouping, regrouping)
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- M5 Decimals (addition, subtraction, multiplication, division)
- M6 Fractions (addition, subtraction, multiplication, division)
- M7 Integers (addition, subtraction, multiplication, division)
- M8 Percents
- M9 Algebraic Operations
- A1 Numeration (ordering, place value, scientific notation)
- A2 Number Theory (ratio, proportion)
- A3 Data Interpretation (graph, table, chart, diagram)
- A4 Pre-Algebra and Algebra (equations, inequality)
- A5 Measurement (money, time, temperature, length, area, volume)
- A6 Geometry (angles, Pythagorean theory)
- A7 Computation in Context (whole numbers, decimals, fractions, algebraic operations)
- A8 Estimation (rounding, estimation)
- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
- L2 Sentence Formation (fragments, run-on, clarity)
- L3 Paragraph Development (topic sentence, supporting sentence, sequence)
- L4 Capitalization (proper noun, titles)
- L5 Punctuation (comma, semicolon)
- L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)
- S1 Vowel (short, long)
- S2 Consonant (variant spelling, silent letter)
- S3 Structural Unit (root, suffix)

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21st Century Skills

- CS4 Health Literacy
- CS7 Critical Thinking and Problem Solving
- CS8 Communication and Collaboration
- CS9 Information Literacy
- CS11 ICT Literacy

CS13 Initiative and Self-Direction
CS14 Social and Cross-Cultural Skills
CS16 Leadership and Responsibility
CS15 Productivity and Accountability

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Course Name: Dental Radiology II

Course Abbreviation: DAT 1522

Classification: Career–Technical Core

Description: Continuation of Dental Radiology I. Emphasis placed on clinical competence in exposing periapical radiographs. (2 sch: 4-hr lab)

Prerequisites: Dental Radiology I (DAT 1513)

Competencies and Suggested Objectives	
1.	Demonstrate full mouth x-rays on mannequins and patients. (CDA1, CDA2, CDA3, CDA4, CDA5, CDA6, CDA7, CDA8, CDA9, CDA10, CDA11, CDA12, CDA17, CDA18) <ol style="list-style-type: none"> a. Take a set of full mouth x-rays on a mannequin. b. Take a minimum of five sets of full mouth x-rays on a patient. c. Take a minimum of two panoramic exposures on patients.
2.	Correlate skills from areas with knowledge obtained from didactic and preclinical experience. (CDA1, CDA2, CDA3, CDA4, CDA5, CDA6, CDA7, CDA8, CDA9, CDA10, CDA11, CDA12, CDA17, CDA18) <ol style="list-style-type: none"> a. Identify the sequence of steps followed to operate the dental x-ray machines. b. Demonstrate the procedures for maintaining radiation safety. c. Compare the various intraoral films according to size, customary usage, and film speed. d. Explain the procedure for film duplicating, in sequence. e. Demonstrate methods of film handling and storage. f. Demonstrate the sequence of steps in processing radiographs. g. Determine whether a periapical exposure is of the right or left side by placing it correctly in a mount. h. Position the PID for any given periapical exposure according to its exact location in the maxilla or mandible. i. Identify the types of radiographic errors caused by faulty exposure techniques. j. Identify the types of radiographic errors caused by incorrect film positioning and angulation of the central ray. k. Identify the types of radiographic errors caused by faulty processing techniques. l. Identify the conditions that cause radiographs to be fogged. m. Compare the principles of the paralleling and bisecting techniques. n. Locate the points of entry on the face. o. Differentiate between the methods used to obtain proper horizontal and vertical angulation. p. Identify the advance preparations required before radiographs are exposed, to include selecting the type and number of image receptors required to make a complete periapical survey and assembling holders for the paralleling and bisecting the angle techniques. q. Position holders for the paralleling and bisecting the angle techniques. r. Differentiate between the methods of positioning the image receptor when using the bisecting and the paralleling techniques.

- s. Prepare for the bitewing survey.
- t. Demonstrate the difference between periapical and bitewing exposures.
- u. Demonstrate the bisecting angle technique using proper vertical and horizontal angulation.
- v. Produce at least two panoramic exposures on patients.
- w. Process film including the mounting in a full mouth mount.
- x. Process exposures using digital software.

STANDARDS

Dental Assisting National Board Certified Dental Assistant Examination Topics

Radiation Health and Safety

- CDA1 Expose and evaluate (intraoral and extraoral)
- CDA2 Process
- CDA3 Mount/label
- CDA4 Radiation safety for patient
- CDA5 Radiation safety for operator

Infection Control

- CDA6 Patient and dental healthcare worker education
- CDA7 Prevent cross-contamination and transmission
- CDA8 Maintain aseptic conditions
- CDA9 Perform sterilization procedures
- CDA10 Environmental asepsis
- CDA11 Occupational safety

General Chairside

- CDA12 Collection and recording of clinical data
- CDA17 Prevention and management of emergencies
- CDA18 Office operations

Related Academic Standards

- R1 Interpret Graphic Information (forms, maps, reference sources)
- R2 Words in Context (same and opposite meaning)
- R3 Recall Information (details, sequence)
- R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause/effect)
- R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
- M1 Addition of Whole Numbers (no regrouping, regrouping)
- M2 Subtraction of Whole Numbers (no regrouping, regrouping)
- M3 Multiplication of Whole Numbers (no regrouping, regrouping)
- M4 Division of Whole Numbers (no remainder, remainder)
- M5 Decimals (addition, subtraction, multiplication, division)
- M6 Fractions (addition, subtraction, multiplication, division)
- M7 Integers (addition, subtraction, multiplication, division)
- M8 Percents

- M9 Algebraic Operations
- A1 Numeration (ordering, place value, scientific notation)
- A2 Number Theory (ratio, proportion)
- A3 Data Interpretation (graph, table, chart, diagram)
- A4 Pre-Algebra and Algebra (equations, inequality)
- A5 Measurement (money, time, temperature, length, area, volume)
- A6 Geometry (angles, Pythagorean theory)
- A7 Computation in Context (whole numbers, decimals, fractions, algebraic operations)
- A8 Estimation (rounding, estimation)
- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
- L2 Sentence Formation (fragments, run-on, clarity)
- L3 Paragraph Development (topic sentence, supporting sentence, sequence)
- L4 Capitalization (proper noun, titles)
- L5 Punctuation (comma, semicolon)
- L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)
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21st Century Skills

- CS4 Health Literacy
- CS7 Critical Thinking and Problem Solving
- CS8 Communication and Collaboration
- CS9 Information Literacy
- CS11 ICT Literacy
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- CS14 Social and Cross-Cultural Skills
- CS16 Leadership and Responsibility
- CS15 Productivity and Accountability

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Course Name: Dental Health Education

Course Abbreviation: DAT 1612

Classification: Career–Technical Core

Description: Study of the nutritional needs of the body. Emphasis on nutritional requirements for maintaining good oral hygiene. Comprehensive study of the dental assistant’s responsibilities in patient education as related to good oral health. (2 sch: 2-hr lecture)

Prerequisites: All first semester courses

Competencies and Suggested Objectives	
1.	Discuss preventive dental procedures. ^(CDA7, CDA8, CDA11, CDA12, CDA13, CDA16) <ol style="list-style-type: none"> a. Describe the philosophy of preventive dentistry as it relates to dental and community education. b. Define special dental health needs due to physical status, age, and other factors. c. Define plaque and its relationship to caries and periodontal disease. d. Discuss guidelines for purchasing a new toothbrush and the use of automatic toothbrushes. e. Demonstrate the various methods of toothbrushing and their indications. f. Demonstrate the use of dental floss. g. Define dentifrices and the agents that make up a dentifrice. h. Describe the forms of dentifrices and the various types of dentifrices available to the public. i. List various oral hygiene aids and the use of each. j. Formulate a prevention treatment program for a patient. k. Provide oral hygiene instructions (OHI) that are suitable for the average patient. l. Prepare a handout to teach the average patient how to maintain good oral hygiene. m. Describe various audiovisual aids for patient education. n. Review the order of procedures for a prophylaxis. o. List the sources of fluoride and the benefits of fluoride when added to the community water supply. p. Explain the methods of topical application of fluoride. q. Prepare a report on an approved topic in dental health education.
2.	Discuss the role of nutrition in dental health. ^(CDA12, CDA16) <ol style="list-style-type: none"> a. State the relationship between diet and nutrition with good dental health. b. Define nutrition, nutrients, diet, calorie, malnutrition, and metabolism. c. List factors that influence food habits. d. Name the groups that make up My Pyramid, giving an example of food from each group and the essential nutrient each group provides. e. List the six essential nutrients. f. Discuss the digestion, utilization, and functions of protein. g. Discuss the digestion, utilization, and functions of carbohydrates. h. Describe to the patient the role that carbohydrates play in dental disease. i. Prepare a sweet intake summary.

- j. Discuss the digestion, utilization, and functions of fats.
- k. Discuss the digestion, utilization, and functions of water.
- l. Discuss the digestion, utilization, and functions of minerals.
- m. Discuss the digestion, utilization, and functions of vitamins.
- n. Discuss how nutritional deficiencies are reflected in the oral cavity.
- o. Complete a dietary evaluation.
- p. Plan a diet acceptable for a:
 - i. Child with rampant caries
 - ii. Surgery patient
 - iii. Jaw fracture patient
 - iv. TMJ patient
 - v. Periodontal patient
- q. Discuss the diet and nutrition of special situation patients, including the following situations:
 - i. Caries
 - ii. Periodontal patient
 - iii. Pregnancy and lactation
 - iv. Pedodontic
 - v. Aging patient
 - vi. Systemic disease
 - vii. Cancer patient

STANDARDS

Dental Assisting National Board Certified Dental Assistant Examination Topics

Infection Control

- CDA7 Prevent cross-contamination and transmission
- CDA8 Maintain aseptic conditions
- CDA11 Occupational safety

General Chairside

- CDA12 Collection and recording of clinical data
- CDA13 Chairside dental procedures
- CDA16 Patient education and oral health management

Related Academic Standards

- R1 Interpret Graphic Information (forms, maps, reference sources)
- R2 Words in Context (same and opposite meaning)
- R3 Recall Information (details, sequence)
- R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause/effect)
- R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
- M1 Addition of Whole Numbers (no regrouping, regrouping)
- M2 Subtraction of Whole Numbers (no regrouping, regrouping)
- M3 Multiplication of Whole Numbers (no regrouping, regrouping)

- M4 Division of Whole Numbers (no remainder, remainder)
- M5 Decimals (addition, subtraction, multiplication, division)
- M6 Fractions (addition, subtraction, multiplication, division)
- M7 Integers (addition, subtraction, multiplication, division)
- M8 Percents
- M9 Algebraic Operations
- A1 Numeration (ordering, place value, scientific notation)
- A2 Number Theory (ratio, proportion)
- A3 Data Interpretation (graph, table, chart, diagram)
- A4 Pre-Algebra and Algebra (equations, inequality)
- A5 Measurement (money, time, temperature, length, area, volume)
- A6 Geometry (angles, Pythagorean theory)
- A7 Computation in Context (whole numbers, decimals, fractions, algebraic operations)
- A8 Estimation (rounding, estimation)
- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
- L2 Sentence Formation (fragments, run-on, clarity)
- L3 Paragraph Development (topic sentence, supporting sentence, sequence)
- L4 Capitalization (proper noun, titles)
- L5 Punctuation (comma, semicolon)
- L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)
- S1 Vowel (short, long)
- S2 Consonant (variant spelling, silent letter)
- S3 Structural Unit (root, suffix)

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21st Century Skills

- CS4 Health Literacy
- CS8 Communication and Collaboration
- CS9 Information Literacy
- CS13 Initiative and Self-Direction
- CS14 Social and Cross-Cultural Skills
- CS16 Leadership and Responsibility
- CS15 Productivity and Accountability

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Course Name: Practice Management

Course Abbreviation: DAT 1714

Classification: Career–Technical Core

Description: Comprehensive study of the dental office business procedures. Topics covered: patient contact, patient records, insurance, financial records, telephone usage, office management, basic skills in psychology, and professional ethics. (4 sch: 3-hr lecture, 2-hr lab)

Prerequisites: All first semester Dental Assisting courses

Competencies and Suggested Objectives	
1. Describe duties of the dental office personnel. ^(CDA18)	<ul style="list-style-type: none"> a. List the principal duties of the patient care providers including the dentist, the dental assistant, and the dental hygienist. b. List the duties of other office personnel including the lab technician and clerical support staff.
2. Discuss telephone etiquette. ^{CDA18}	<ul style="list-style-type: none"> a. Describe items needed for good telephone technique. b. Demonstrate the ability to handle incoming telephone calls. c. Discuss how to schedule appointments, change appointments, confirm appointments, handle broken appointments, and make emergency appointments. d. Discuss the professional responsibility of the office to maintain an accurate recall system.
3. Describe various record keeping procedures. ^{CDA18}	<ul style="list-style-type: none"> a. Complete a patient registration form. b. State the importance of a medical and dental history. c. Review treatment charts and charting symbols. d. Discuss the different methods of filing patient and business records. e. Discuss the basic rules of filing. f. Discuss the importance of patient confidentiality and the HIPAA guidelines. g. Discuss the transition from a conventional business office to a paperless environment.
4. Prepare a dental insurance form. ^{CDA18}	<ul style="list-style-type: none"> a. Define dental insurance terms and coverage. b. Complete an insurance form (attending dentist statement). c. Discuss current trends involving third party payors (managed care, HMO, PPO, and others) and how these may affect the future of dentistry.
5. Describe bookkeeping procedures in a dental office. ^{CDA18}	<ul style="list-style-type: none"> a. Discuss different bookkeeping systems. b. Describe methods of recording and charging payments. c. Demonstrate making pegboard entries, charge slips, and ledger cards. d. Demonstrate knowledge of banking by writing a check, preparing a bank deposit, and reconciling a bank statement. e. Discuss what a statement is and when statements are prepared. f. Discuss the different methods of collection and when each method is indicated.

<ul style="list-style-type: none"> g. Define overhead, gross income, and net income. h. Describe an inventory system and the terms associated with supplies and inventory. i. Define the terms associated with disbursements (COD, petty cash, and others). j. Define terms related to payroll withholding. k. Demonstrate how to compute payroll. l. Explain procedures for remitting government taxes.
<p>6. Discuss general office procedures. ^{CDA18}</p> <ul style="list-style-type: none"> a. Explain the procedure to handle incoming and outgoing mail. b. Describe the various business letter forms. c. Discuss general office correspondence. d. Describe the purpose of an office manual and its content.
<p>7. Utilize dental-related computer software. ^{CDA18}</p> <ul style="list-style-type: none"> a. State the uses of the computer in the dental office. b. Demonstrate the use of dental practice management computer software, including: <ul style="list-style-type: none"> i. Appointments ii. Billing iii. Generating insurance forms iv. Patient records v. General office correspondence
<p>8. Describe employability skills. ^{CDA18}</p> <ul style="list-style-type: none"> a. Discuss the importance of professional work ethics to the employee and the office. b. Research job opportunities for dental assistants. c. List important factors for seeking employment. d. Discuss what a resume is, what information should be included, and prepare one. e. Explain the purpose of the cover letter and how to prepare one. f. Discuss the importance of proper attire for an interview. g. Discuss the importance of the interview. h. List frequently asked questions during an interview. i. Discuss ways to adjust to the job and new environment quickly and smoothly. j. Discuss lifelong learning in the field. k. Discuss the components of a letter of resignation. l. List some do's and don'ts for employment in the dental office.
<p>9. Discuss interpersonal skills needed in the dental practice. ^{CDA18}</p> <ul style="list-style-type: none"> a. Explain the environmental factors which have a psychological effect on the patient. b. Discuss the role of each member of the dental team. c. Discuss the employee's relationship to the formal and informal systems of the dental office. d. Discuss the development of one's personality and how it can affect patients in the office for treatment. e. Describe patients' fears related to the dental office and to dental treatment. f. Differentiate between fears that adults have and those of children. g. Discuss ways that a dental team can reduce anxiety and fear in their patients. h. Discuss ways to communicate with patients, fellow employees, and the dentist. i. List some ways to reduce stress while working in the dental office. j. List the most common reactions or responses to stress and frustrations associated with the dental office.

STANDARDS

Dental Assisting National Board Certified Dental Assistant Examination Topics

General Chairside

CDA18 Office operations

Related Academic Standards

- R1 Interpret Graphic Information (forms, maps, reference sources)
- R2 Words in Context (same and opposite meaning)
- R3 Recall Information (details, sequence)
- R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause/effect)
- R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
- M1 Addition of Whole Numbers (no regrouping, regrouping)
- M2 Subtraction of Whole Numbers (no regrouping, regrouping)
- M3 Multiplication of Whole Numbers (no regrouping, regrouping)
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- M5 Decimals (addition, subtraction, multiplication, division)
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- M7 Integers (addition, subtraction, multiplication, division)
- M8 Percents
- M9 Algebraic Operations
- A1 Numeration (ordering, place value, scientific notation)
- A2 Number Theory (ratio, proportion)
- A3 Data Interpretation (graph, table, chart, diagram)
- A4 Pre-Algebra and Algebra (equations, inequality)
- A5 Measurement (money, time, temperature, length, area, volume)
- A6 Geometry (angles, Pythagorean theory)
- A7 Computation in Context (whole numbers, decimals, fractions, algebraic operations)
- A8 Estimation (rounding, estimation)
- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
- L2 Sentence Formation (fragments, run-on, clarity)
- L3 Paragraph Development (topic sentence, supporting sentence, sequence)
- L4 Capitalization (proper noun, titles)
- L5 Punctuation (comma, semicolon)
- L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)
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21st Century Skills

- CS2 Financial, Economic, Business and Entrepreneurial Literacy
- CS4 Health Literacy
- CS7 Critical Thinking and Problem Solving
- CS8 Communication and Collaboration
- CS9 Information Literacy
- CS11 ICT Literacy
- CS12 Flexibility and Adaptability
- CS13 Initiative and Self-Direction
- CS14 Social and Cross-Cultural Skills
- CS16 Leadership and Responsibility
- CS15 Productivity and Accountability

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Course Name: Clinical Experience I

Course Abbreviation: DAT 1815

Classification: Career–Technical Core

Description: Supervised clinical experience in an authorized dental clinic. (5 sch: 1-hr lecture, 12-hr clinical)

Prerequisites: Chairside Assisting I (DAT 1415)

Competencies and Suggested Objectives

1. Correlate skills from areas with knowledge obtained from didactic and preclinical experiences. (CDA1, CDA2, CDA3, CDA4, CDA5, CDA6, CDA7, CDA8, CDA9, CDA10, CDA11, CDA12, CDA13, CDA14, CDA15, CDA16, CDA17, CDA18)
 - a. Apply the knowledge learned in the formal academic program to the functioning dental practice.
 - b. Demonstrate the ability to successfully work with the dental team in the cooperating dental office according to established standards.
 - c. Perform those chairside responsibilities taught in the formal program to the satisfaction of the cooperating dentist and the supervising instructor.
 - d. Expose, process, and mount dental x-rays according to the standards acceptable to the supervising dentist.
 - e. Perform tasks in the dental laboratory, such as pouring up and trimming study models, custom made trays, and other items.
 - f. Demonstrate the ability to answer the telephone, make appointments, prepare records, and make collections according to standards acceptable to the cooperating dentist and the instructor.
 - g. Record clinical experiences in a journal.
2. Discuss clinical activities and national boards. CDA13, CDA16
 - a. Prepare case presentations.
 - b. Present case presentations.
 - c. Discuss sections of the dental assisting national board exam.
 - d. Discuss test taking techniques.

STANDARDS

Dental Assisting National Board Certified Dental Assistant Examination Topics

Radiation Health and Safety

- CDA1 Expose and evaluate (intraoral and extraoral)
- CDA2 Process
- CDA3 Mount/label
- CDA4 Radiation safety for patient
- CDA5 Radiation safety for operator

Infection Control

- CDA6 Patient and dental healthcare worker education
- CDA7 Prevent cross-contamination and transmission
- CDA8 Maintain aseptic conditions
- CDA9 Perform sterilization procedures
- CDA10 Environmental asepsis
- CDA11 Occupational safety

General Chairside

- CDA12 Collection and recording of clinical data
- CDA13 Chairside dental procedures
- CDA14 Chairside dental materials (preparation, manipulation, and application)
- CDA15 Lab materials and procedures
- CDA16 Patient education and oral health management
- CDA17 Prevention and management of emergencies
- CDA18 Office operations

Related Academic Standards

- R1 Interpret Graphic Information (forms, maps, reference sources)
- R2 Words in Context (same and opposite meaning)
- R3 Recall Information (details, sequence)
- R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause/effect)
- R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
- M1 Addition of Whole Numbers (no regrouping, regrouping)
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- A7 Computation in Context (whole numbers, decimals, fractions, algebraic operations)
- A8 Estimation (rounding, estimation)
- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
- L2 Sentence Formation (fragments, run-on, clarity)
- L3 Paragraph Development (topic sentence, supporting sentence, sequence)
- L4 Capitalization (proper noun, titles)
- L5 Punctuation (comma, semicolon)
- L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)

- S1 Vowel (short, long)
- S2 Consonant (variant spelling, silent letter)
- S3 Structural Unit (root, suffix)

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21st Century Skills

- CS4 Health Literacy
- CS5 Environmental Literacy
- CS7 Critical Thinking and Problem Solving
- CS8 Communication and Collaboration
- CS9 Information Literacy
- CS11 ICT Literacy
- CS12 Flexibility and Adaptability
- CS13 Initiative and Self-Direction
- CS14 Social and Cross-Cultural Skills
- CS16 Leadership and Responsibility
- CS15 Productivity and Accountability

SUGGESTED REFERENCES

- Anderson, P. C., & Pendleton, A. E. (2001). *The dental assistant* (7th ed.). Albany, NY: Delmar.
- Andujo, E. (2003). *Complete review of dental assisting*. Upper Saddle River, NJ: Prentice Hall.
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- Finkbeiner, B.L. (Ed.). (2008). *Review questions and answers for dental assisting*. St. Louis, MO: Mosby.
- Koch, L., Brown, K., Capper, D., & Durley, C. (2005). *The DANB review* (3rd ed.). Dental Assisting National Board.
- Mosby. (2007). *Mosby's dental dictionary* (2nd ed.). St. Louis, MO: Author.

Course Name: Clinical Experience II

Course Abbreviation: DAT 1822

Classification: Career–Technical Core

Description: Continuation of supervised clinical experience in an authorized dental clinic. (2 sch: 6-hr clinical)

Pre/corequisites: All first semester Dental Assisting courses

Competencies and Suggested Objectives	
1.	Correlate skills from areas with knowledge obtained from didactic and preclinical experiences involving patient care. (CDA1, CDA2, CDA3, CDA4, CDA5, CDA6, CDA7, CDA8, CDA9, CDA10, CDA11, CDA12, CDA13, CDA14, CDA16, CDA17)
	<ul style="list-style-type: none"> a. Apply the knowledge learned in the formal academic program to the functioning dental practice involving direct patient care. b. Demonstrate the ability to successfully work with the patient and the dental health team according to standards established by the supervising instructor. c. Demonstrate the ability to successfully work with the dental team in the cooperating dental office according to the established standards. d. Perform those chairside responsibilities taught in the formal program to the satisfaction of the cooperating dentist and the supervising instructor. e. When given the responsibility, expose, process, and mount dental x-rays according to the standards acceptable to the supervising dentist.
2.	Correlate skills from areas with knowledge obtained from didactic and preclinical experiences involving non-patient care. (CDA15, CDA18)
	<ul style="list-style-type: none"> a. Perform tasks in the dental laboratory, such as pouring up and trimming study models, custom made trays, and other items. b. Demonstrate the ability to answer the telephone, make appointments, prepare records, and make collections according to standards acceptable to the cooperating dentist and the instructor. c. Record clinical experiences in a journal.

STANDARDS

Dental Assisting National Board Certified Dental Assistant Examination Topics

Radiation Health and Safety

CDA1 Expose and evaluate (intraoral and extraoral)

CDA2 Process

CDA3 Mount/label

CDA4 Radiation safety for patient

CDA5 Radiation safety for operator

Infection Control

CDA6 Patient and dental healthcare worker education

- CDA7 Prevent cross-contamination and transmission
- CDA8 Maintain aseptic conditions
- CDA9 Perform sterilization procedures
- CDA10 Environmental asepsis
- CDA11 Occupational safety

General Chairside

- CDA12 Collection and recording of clinical data
- CDA13 Chairside dental procedures
- CDA14 Chairside dental materials (preparation, manipulation, and application)
- CDA15 Lab materials and procedures
- CDA16 Patient education and oral health management
- CDA17 Prevention and management of emergencies
- CDA18 Office operations

Related Academic Standards

- R1 Interpret Graphic Information (forms, maps, reference sources)
- R2 Words in Context (same and opposite meaning)
- R3 Recall Information (details, sequence)
- R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause/effect)
- R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
- M1 Addition of Whole Numbers (no regrouping, regrouping)
- M2 Subtraction of Whole Numbers (no regrouping, regrouping)
- M3 Multiplication of Whole Numbers (no regrouping, regrouping)
- M4 Division of Whole Numbers (no remainder, remainder)
- M5 Decimals (addition, subtraction, multiplication, division)
- M6 Fractions (addition, subtraction, multiplication, division)
- M7 Integers (addition, subtraction, multiplication, division)
- M8 Percents
- M9 Algebraic Operations
- A1 Numeration (ordering, place value, scientific notation)
- A2 Number Theory (ratio, proportion)
- A3 Data Interpretation (graph, table, chart, diagram)
- A4 Pre-Algebra and Algebra (equations, inequality)
- A5 Measurement (money, time, temperature, length, area, volume)
- A6 Geometry (angles, Pythagorean theory)
- A7 Computation in Context (whole numbers, decimals, fractions, algebraic operations)
- A8 Estimation (rounding, estimation)
- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
- L2 Sentence Formation (fragments, run-on, clarity)
- L3 Paragraph Development (topic sentence, supporting sentence, sequence)
- L4 Capitalization (proper noun, titles)
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21st Century Skills

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Koch, L., Brown, K., Capper, D., & Durley, C. (2005). *The DANB review* (3rd ed.). Dental Assisting National Board.

Mosby. (2007). *Mosby's dental dictionary* (2nd ed.). St. Louis, MO: Author.

Recommended Tools and Equipment

CAPITALIZED ITEMS

1. Autoclave, Steam (1 per program)
2. AV Cart, lockable
3. Cabinet, Mobile (1 per operator)
4. Central Evacuation System (1 per program)
5. Chair, Dental (1 per operator)
6. Compressor, Air (1 per program)
7. Dental Unit (1 per operator)
8. DVD player
9. Eye Wash Station
10. Handpiece, Slow Speed (1 per operator)
11. Handpiece, Slow Speed, Lab, Air Driven (1 per 2 students)
12. Handpiece, High Speed (1 per operator)
13. Light Curing Unit (1 per operator)
14. Light Dental (1 per operator)
15. LCD projector (1 per program)
16. Mannequin Head, Chrome (Billy-Bob) (1 per operator)
17. Mannequin, Radiographic (Dexter) (1 per x-ray operator)
18. Mixer, Plaster (1 per program)
19. OSHA Compliance System (1 per program)
20. Processor, Automatic Film (1 per program)
21. Stool, Assistant's (1 per operator)
22. TV
23. TV Stand
24. Ultrasonic Cleaner (2 per program)
25. X-ray Machine, Intraoral (1 per x-ray operator)
26. X-ray Digital Sensors, Computer, and Software (1 per x-ray operator) or 1 indirect system with computer and software
27. X-ray Machine, Panoramic (1 per program)
28. Computer with CD ROM (1 per 4 students)*
29. Printer, Laser (1 per 2 computers)*

*It is acceptable to only have access to these items.

NON-CAPITALIZED ITEMS

1. Amalgam Instruments – complete tray setup
2. Bowls, Rubber mixing
3. Cement Spatulas (2 per student)
4. Composite Instruments (each) (12 per operator)
5. Endodontic Instruments
6. Fire blanket
7. Fire extinguisher

8. Impression Trays, metal rim, assorted sizes (1 pr. per size per operator)
9. Knife, Lab (1 per student)
10. Orthodontic Instruments
11. Pedodontic Instruments
12. Periodontal Instruments
13. Polyvinylsiloxane cartridge delivery system
14. Prosthodontic Instruments
15. Rubber Dam, Rubber Dam Instrumentation (1 per operator & 1 per student)
16. Safelight GBX (1 per program)
17. Sharp's Containers (1 per operator, 1 per classroom, & 1 per lab)
18. Slabs, Glass Mixing (1 per student & 1 per operator)
19. Spatula, Alginate (1 per student & 1 per operator)
20. Spatulas, Plaster (1 per student & 1 per operator)
21. Sphygmomanometer (1-2 per student & 1 per operator)
22. Splash Hood with Light Socket/Lucite Shield (2 per lathe)
23. Stethoscope (1 per 2 students)
24. Stethoscope for Teaching (1 per program)
25. Surgical Instruments
26. Syringe, Aspirating (2 per operator)
27. Thermometer, Digital (1 per operator)
28. Amalgamator (1 per 3 students)
29. Apron, Lead (1 per operator)
30. Apron, Lead, Thyroid Collar (1 per operator)
31. Biological Monitoring System (1 per program)
32. Cart, Mobile Supply (1 per program)
33. Chair, Operator (1 per operator)
34. Dentoform, Assorted (1 per 2 students)
35. Developer, Chairside Instant (1 per program)
36. Duplicator, Film (1 per program)
37. Human Skull Model (1 per 3 students)
38. Instrument Cabinets, Dental (1 per program)
39. Lathe (1 per 3 students)
40. Processing Tanks (1 per program)
41. Pulp Vitalometer (1 per program)
42. Trimmer, Model (1 per sink)
43. Vacuum Adapter (1 per program)
44. Vibrator, Mixing (1 per 3 students)
45. View Boxes, Film (1 per student)
46. Surge Protector (1 per 2 computers)

RECOMMENDED INSTRUCTIONAL AIDS

It is recommended that instructors have access to the following items:

1. Articulator, Full Mouth (1 per program)
2. Emergency Medical Kit (1 per program)

3. Mercury Spill Absorbent Kit (1 per program)
4. Presentation remote (1 per program)
5. Document camera (1 per program)
6. Training models

Appendix A: Dental Assisting National Board Certified Dental Assistant Examination Topics¹

Radiation Health and Safety

- CDA1 Expose and evaluate (intraoral and extraoral)
- CDA2 Process
- CDA3 Mount/label
- CDA4 Radiation safety for patient
- CDA5 Radiation safety for operator and other staff

Infection Control

- CDA6 Patient and dental healthcare worker education
- CDA7 Prevent cross-contamination and transmission
- CDA8 Maintain aseptic conditions
- CDA9 Perform sterilization procedures
- CDA10 Environmental asepsis
- CDA11 Occupational safety

General Chairside

- CDA12 Collection and recording of clinical data
- CDA13 Chairside dental procedures
- CDA14 Chairside dental materials (preparation, manipulation, and application)
- CDA15 Lab materials and procedures
- CDA16 Patient education and oral health management
- CDA17 Prevention and management of emergencies
- CDA18 Office operations

¹ Dental Assisting National Board. (2011). *Certified dental assistant (CDA) exam blueprints*. Chicago: Author.

Appendix B: Related Academic Standards²

Reading

- R1 Interpret Graphic Information (forms, maps, reference sources)
- R2 Words in Context (same and opposite meaning)
- R3 Recall Information (details, sequence)
- R4 Construct Meaning (main idea, summary/paraphrase, compare/contrast, cause/effect)
- R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)

Mathematics Computation

- M1 Addition of Whole Numbers (no regrouping, regrouping)
- M2 Subtraction of Whole Numbers (no regrouping, regrouping)
- M3 Multiplication of Whole Numbers (no regrouping, regrouping)
- M4 Division of Whole Numbers (no remainder, remainder)
- M5 Decimals (addition, subtraction, multiplication, division)
- M6 Fractions (addition, subtraction, multiplication, division)
- M7 Integers (addition, subtraction, multiplication, division)
- M8 Percents
- M9 Algebraic Operations

Applied Mathematics

- A1 Numeration (ordering, place value, scientific notation)
- A2 Number Theory (ratio, proportion)
- A3 Data Interpretation (graph, table, chart, diagram)
- A4 Pre-Algebra and Algebra (equations, inequality)
- A5 Measurement (money, time, temperature, length, area, volume)
- A6 Geometry (angles, Pythagorean theory)
- A7 Computation in Context (whole numbers, decimals, fractions, algebraic operations)
- A8 Estimation (rounding, estimation)

Language

- L1 Usage (pronoun, tense, subject/verb agreement, adjective, adverb)
- L2 Sentence Formation (fragments, run-on, clarity)
- L3 Paragraph Development (topic sentence, supporting sentence, sequence)
- L4 Capitalization (proper noun, titles)
- L5 Punctuation (comma, semicolon)
- L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)

Spelling

- S1 Vowel (short, long)
- S2 Consonant (variant spelling, silent letter)
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Appendix C: 21st Century Skills³

CSS1-21st Century Themes

CS1 Global Awareness

1. Using 21st century skills to understand and address global issues
2. Learning from and working collaboratively with individuals representing diverse cultures, religions and lifestyles in a spirit of mutual respect and open dialogue in personal, work and community contexts
3. Understanding other nations and cultures, including the use of non-English languages

CS2 Financial, Economic, Business and Entrepreneurial Literacy

1. Knowing how to make appropriate personal economic choices
2. Understanding the role of the economy in society
3. Using entrepreneurial skills to enhance workplace productivity and career options

CS3 Civic Literacy

1. Participating effectively in civic life through knowing how to stay informed and understanding governmental processes
2. Exercising the rights and obligations of citizenship at local, state, national and global levels
3. Understanding the local and global implications of civic decisions

CS4 Health Literacy

1. Obtaining, interpreting and understanding basic health information and services and using such information and services in ways that enhance health
2. Understanding preventive physical and mental health measures, including proper diet, nutrition, exercise, risk avoidance and stress reduction
3. Using available information to make appropriate health-related decisions
4. Establishing and monitoring personal and family health goals
5. Understanding national and international public health and safety issues

CS5 Environmental Literacy

1. Demonstrate knowledge and understanding of the environment and the circumstances and conditions affecting it, particularly as relates to air, climate, land, food, energy, water and ecosystems
2. Demonstrate knowledge and understanding of society's impact on the natural world (e.g., population growth, population development, resource consumption rate, etc.)
3. Investigate and analyze environmental issues, and make accurate conclusions about effective solutions
4. Take individual and collective action towards addressing environmental challenges (e.g., participating in global actions, designing solutions that inspire action on environmental issues)

³ *21st century skills*. (n.d.). Washington, DC: Partnership for 21st Century Skills.

CSS2-Learning and Innovation Skills

CS6 Creativity and Innovation

1. Think Creatively
2. Work Creatively with Others
3. Implement Innovations

CS7 Critical Thinking and Problem Solving

1. Reason Effectively
2. Use Systems Thinking
3. Make Judgments and Decisions
4. Solve Problems

CS8 Communication and Collaboration

1. Communicate Clearly
2. Collaborate with Others

CSS3-Information, Media and Technology Skills

CS9 Information Literacy

1. Access and Evaluate Information
2. Use and Manage Information

CS10 Media Literacy

1. Analyze Media
2. Create Media Products

CS11 ICT Literacy

1. Apply Technology Effectively

CSS4-Life and Career Skills

CS12 Flexibility and Adaptability

1. Adapt to Change
2. Be Flexible

CS13 Initiative and Self-Direction

1. Manage Goals and Time
2. Work Independently
3. Be Self-directed Learners

CS14 Social and Cross-Cultural Skills

1. Interact Effectively with Others
2. Work Effectively in Diverse Teams

CS15 Productivity and Accountability

1. Manage Projects
2. Produce Results

CS16 Leadership and Responsibility

1. Guide and Lead Others
2. Be Responsible to Others