COURSE INFORMATION FORM

DISCIPLINE: Allied Health/DENA
COURSE TITLE: Dental Materials I
CR.HR: 2.5  LECT HR: 0  LAB HR: 5  CLIN/INTERN HR: 0  CLOCK HR: 0

CATALOG DESCRIPTION
This course is designed to provide students with basic knowledge of various dental materials and manipulation of alginate materials, impression materials, bite registration materials, cements and gypsum products and their role in making dental models. Students will gain laboratory experience in the handling, practical application, safe use of dental materials and laboratory equipment in addition to following infection control procedures in accordance with OSHA and CDC.

PREREQUISITES
Formal Admission into the Dental Assisting Program, DENA 100, ENGL 101

EXPECTED STUDENT OUTCOMES IN THE COURSE (ESO)
Upon completion of this course, the student will be able to:

1. Apply safety regulations in the laboratory.
2. Integrate technical information required for preparation of materials.
3. Identify the chemical and physical properties of each dental material.
4. Assemble the dental materials according to the manufacturer’s specification to include: Alginate, impression materials, bite registration materials, gypsum products and various cements.
5. Construct one set of diagnostic casts in stone and trimming/finishing.
6. Demonstrate appropriate infection control procedures, personal protection equipment, standard universal precautions and means of sterilization and/or disinfection for items and equipment in the laboratory and dental office.

GENERAL EDUCATION OUTCOMES (ESO)
Specify which general education outcomes, if any, are substantially addressed by the course. Numbers in parentheses identify the Expected Student Outcomes linked to the specific General Education Outcome.

Table:

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<th>Outcomes</th>
<th>ESO</th>
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Revised 12/9/13
PROGRAM-LEVEL OUTCOMES

CAREER AND TECHNICAL EDUCATION PROGRAM OUTCOMES
Specify which Career and Technical program outcomes, if any, are substantially addressed by the course by completing the “Career and Technical Education template” to show the relationship between course and program outcomes to assessment measures.

1. Carry out the role and function of a Dental Assistant.
   • Analyze various materials and their effect on individuals.
2. Apply foundational knowledge of basic dentistry.
   • Analyze different occupational tasks.

CLASS-LEVEL ASSESSMENT MEASURES
Student accomplishment of expected student outcomes may be assessed using the following measures. (Identify which measures are used to assess which outcomes.)

1. Written Examinations, 1-6
2. Assignments, 1-6
3. Satisfactory Completion of Student Performance Evaluation, 1-6
4. Quizzes, 1-6
Individual instructors may order this outline as fits the needs of their individual courses. In addition, they may place more emphasis on some areas than on others. What is assured is that this particular list is covered in the course. Other topics may be added to a course as the instructor sees fit, and as time and interest allow. An *asterisk can be used to mark an item as optional.

I. Safety Rules for the Dental Laboratory
   A. Safety
   B. Attire
   C. Expectations
   D. Hours
   E. Emergency Procedures
   F. Infection Control Procedures

II. Laboratory Equipment and Instruments
   A. Instruments and Equipment used per Procedure
   B. Dentoforms (typodonts)

III. General Characteristics of Dental Materials
   A. Physical Characteristics
   B. Mechanical Characteristics
   C. Biological Characteristics
   D. Types of Impression Materials

IV. Alginate
   A. Introduction to Impression Material
   B. Requirements
   C. Use in Dentistry
   D. Composition and Chemistry
   E. Physical Phase
   F. Packaging and storage
   G. Impression Trays
   H. Taking Impressions

V. Gypsum Materials
   A. Dental Plaster and Stone
   B. Fabrication and trimming of study models

VI. Waxes
   A. Uses of Waxes in Dentistry
   B. Composition
   C. Classifications

VII. Crown and Bridge Impression Materials
   A. Elastic materials
   B. Reversible hydrocolloids
   C. Elastomers
   D. Viscosities
   E. Polysulfide
F. Condensation silicones
G. Polyethers
H. Polyvinyl silicones
I. Two-paste system
J. Gun-cartridge system
K. Bite registration

VIII. Cements
A. Bases
B. Liners