HIBBING COMMUNITY COLLEGE
COURSE OUTLINE

COURSE TITLE & NUMBER: Dental Lab: DAS 1517
CREDITS: 2 (0 Lec / 2 Lab)
PREREQUISITES:

CATALOG DESCRIPTION: Dental Lab provides the basic necessary information on dental materials and the skills necessary to handle lab equipment.

OUTLINE OF MAJOR CONTENT AREAS:
1. The ADA Council on Dental materials, instruments and equipment
   A. Specification program
   B. Certification program
   C. Acceptance program
2. Factors making demands on dental materials
   A. Biting forces
   B. Temperature changes
      1. Expansion and contraction
      2. Protection of the pulp from thermal changes
   C. Acidity
   D. Esthetic factors
   E. Retention
   F. Biological limitations
   G. Microleakage
   H. Galvanic action
3. The structure and properties of dental materials
   A. Force
   B. Stress and strain
   C. Elasticity
      1. Elastic limit
      2. Modulus of elasticity
   D. Ultimate strength
   E. Ductility and malleability
   F. Flow
   G. Hardness
   H. Relaxation
   I. Thermal properties
      1. Thermal conductivity
      2. Thermal expansion
   J. Adhesion
      1. Wetting
      2. Viscosity
      3. Film thickness
      4. Surface tension
   K. Adhesion and tooth structure
L. Solubility
4. Gypsum products
   A. Classification of gypsum products
      1. Type I
      2. Type II, model plaster
      3. Type III, dental unimproved stone
      4. Type IV, high-strength dental stone
   B. Setting of gypsum products
   C. Water/powder ratio
      1. Too little water used
      2. Too much water used
      3. Optimal ratios
   D. Setting time
   E. Setting expansion
   F. Strength
5. Hydrocolloid impression materials
   A. Hydrocolloids
      1. Reversible hydrocolloids
      2. Irreversible hydrocolloids
   B. Agar impression materials
   C. Alginate impression materials

COURSE GOALS/OBJECTIVES/OUTCOMES:
1. Students will identify and perform OSHA and HCC Dental Safety standards and
   rules while displaying professionalism.
2. Students will identify historical development of dental materials, physical
   properties, testing methods, and define terminology.
3. Students will identify and demonstrate gypsum products and how to pour and
   finish study casts.
4. Students will identify and demonstrate types of impressions, manipulation and
   uses.

MNTC GOALS AND COMPETENCIES MET:
N/A

HCC COMPETENCIES MET:
Working Productively & Cooperatively
Communicating Clearly and Effectively
Thinking Creatively and Critically
Social/Civic Responsibility

STUDENT CONTRIBUTIONS:
Each student will spend at least 2 hours per week preparing for class. Attendance is
crucial in this class. The student will be expected to attend all lectures, participate in
class activities, participate and implement input into class discussions, and hand in
outside assignments when due.
STUDENT ASSESSMENT SHALL TAKE PLACE USING INSTRUMENTS SELECTED/DEVELOPED BY THE COURSE INSTRUCTORS.

Curriculum Committee Approval Date: May 1, 2018

AASC APPROVAL DATE: May 9, 2018
REVIEW DATE: May 2023