

**J. Sargeant Reynolds Community College
Course Content Summary**

Course Prefix and Number: DNL 220

Credits: 6

Course Title: Introduction to Dental Ceramics

Course Description (including lecture hours, lab hours, total contacts)

Introduces students to ceramic and porcelain-fused-to-metal dental restorations. Includes techniques of design and fabrication of metal substructures followed by ceramic firing techniques. Discusses various ceramic alloy and all-ceramic crown techniques. Students observe fabrication procedure demonstrations and receive one-on-one instruction during part of the laboratory sessions. Lecture 3 hours. Laboratory 9 hours. Total 12 hours per week.

General Course Purpose

Students must be able to perform ceramic fixed restoration techniques in order to function as a dental laboratory technician in a commercial dental laboratory or dental office.

Course Prerequisites/Corequisites (*Entry-level competencies **required** for enrollment*)

General admission to the college. Students must interview with the program head in order to determine interest, motivation and aptitudes in dental lab technology.

Course Objectives

Upon completing the course, the student will be able to:

- a. define terminology and nomenclature as it relates to dental ceramics.
- b. demonstrate fabrication procedures for various types ceramic restorations.
- c. demonstrate the use and designs of porcelain-fused-to-metal restorations.
- d. demonstrate procedures for CAD/CAM all ceramic restorations.

Major Topics to be Included

- a. Fundamentals of Substructure Design and Investing and Casting Ceramic Alloys
- b. Metal preparation for Porcelain Application
- c. Opaque Application and the Nature of the Porcelain Bond
- d. Porcelain Build-up Technique and Composition
- e. Staining, Characterizing, and Glazing Techniques
- f. Pre and Post Soldering Procedures
- g. Resin Bonded Bridges
- h. CAD/CAM Design for All Ceramic Crowns

Effective Date of Course Content Summary (Month, Date Year): Aug. 22, 2008