



# COURSE OUTLINE

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**Course Name:** Dental Laboratory Sciences 2

**Department Head/Coordinator:** Allan White

**Effective Date:** September 2014

<b>School or Centre:</b>		<b>Department:</b>	
School of Health Sciences		Denturist/Dental Technology Department	
<b>Course History:</b>		<b>Year of Study:</b>	
Replacement Course		1st Year Post-secondary	
<b>Name of Replacing Course (if applicable):</b>	DENT 2000	<b>Course Number:</b>	DENT 1220
		<b>Number of Credits:</b>	4.0

## Course Pre-requisites (if applicable):

All semester one courses

## Course Co-requisites (if applicable):

N/A

## PLAR (Prior Learning Assessment & Recognition)

No  Yes (details below):

N/A

## Course Description:

This course builds on information introduced in courses in Semester One. It focuses on occlusion, Temporomandibular Joint (TMJ) and occlusal function and dysfunction related to dental appliance design and fabrication. This course also introduces students to basic concepts of Dental Computer Assisted Design and Milling techniques (CAD-CAM) and implant technique, materials, instruments, equipment and technology. Students will utilize CAD technology to design simple fixed and removable dental appliances as prescribed.

**Note to instructors:** An instructional strategy is an approach that an instructor uses to achieve the learning outcomes (e.g., lecture, case study, video, group work).

### **Instructional Strategies:**

Lectures, seminars, case study analysis, demonstrations, project work and practice in labs.

### **Course Learning Outcomes:**

Upon successful completion of this course, the student will be able to:

1. Demonstrate safe and effective use of dental laboratory tools, equipment and supplies;
2. Demonstrate an understanding of the application of dental anatomy, physiology and tooth morphology;
3. Demonstrate an awareness of anatomical variations, disorders and basic pathological conditions and diseases affecting the oral cavity;
4. Describe the principles of operation of the equipment used in dental technology;
5. Select and utilize equipment appropriate to the specified procedures, safely and efficiently;
6. Use CAD-CAM technology to design simple fixed and removable dental appliances;
7. Fabricate simple CAD-CAM and Implant oral appliances and dental restorations by prescription.

### **Program Learning Outcomes:**

The graduate of the VCC Dental Technology program will have the skills and abilities to:

1. Design, fabricate, modify and repair removable oral/dental prostheses;
2. Design, fabricate, modify and repair fixed oral/dental prostheses;
3. Design, fabricate, modify and repair oral/dental appliances used in orthodontics, oral and maxillo-facial surgery and other dental treatments;
4. Integrate general knowledge of dental laboratory procedures, physics and chemistry principles, associated with the fabrication of oral appliances and dental restorations;
5. Assess the characteristics and properties of dental materials associated with the fabrication of oral appliances and dental restorations and make decisions about their appropriate application in practice;
6. Assess the characteristics and operation of equipment and special instrumentation associated with the fabrication of oral appliances and dental restorations and make decisions about their appropriate application in practice;
7. Assess the fundamental elements of dental anatomy, dental physiology, dental morphology and basic elements of oral pathological conditions and apply relevant knowledge to dental technology practice;
8. Practice to current workplace health and safety standards including dental laboratory asepsis, and infection control;
9. Apply essential elements and skills of behavioural sciences, communications, professional ethics, legal obligations and business management to dental technology practice;
10. Make decisions that reflect critical thinking and problem solving; integrate pertinent theoretical knowledge and empirical data and information literacy skills to justify and/or revise services.

**Evaluation/Grading System** *(Click on drop down box arrows to see list of options)*

Grading System	Specify if 'Other':	Specify Passing Grade:
Letter Grades		C+ 64%

**Components and Weighting of the Assessment/Evaluation Plan:** *(Click on drop down box arrows to see list of options)*

Type	Percentage	Evaluation Plan (provide a brief explanation for each component especially if value exceeds 35%):
Midterm Exam	35	Multiple choice, short and long answer
Assignments	30	written case study analysis
Final Exam	35	written exam multiple choice, short and long answer
Lab Work		Practical Projects (5) Grade will be Satisfactory or Unsatisfactory to competency-based rubrics
		Students must earn an "S" grade in all projects to pass this course
	<b>Total</b>	<b>100</b>

**Learning Environment/Type** *(Select all that are used within the course)*

Instruction Type	Hours Per Instruction Type	Comments
B - Lab (Computer, Chemistry...)	60	
L - Classroom	45	
E - Seminar	15	
<b>Enter Total Hours</b>	<b>120</b>	

**Resource Material(s):**

Resources are items in addition to tuition that the student is responsible for purchasing. Course resource information will be supplied by the department/instructor.

**Course Topics and Sequence Covered:**

Anatomical variations, disorders  
Basic pathological conditions and diseases  
General factors affecting occlusal development: eruption of permanent dentition and primary dentition  
Localized factors affecting occlusion: dental factors, muscle factors affecting the occlusion, occlusion and function  
Planes of reference  
Postnatal growth of the skull and jaws  
Malocclusions  
Introduction to digital dental technology, Implant and system  
CAD-CAM and implant equipment and instrument  
CAD-CAM and implant materials  
CAD-CAM software use  
Basic concepts of CAD-CAM and Implant as they pertain to dental prosthetics.  
Design and fabrication simple CAD-CAM and dental implant restorations

## VCC Education and Education Support Policies

There are a number of **Education** and **Education Support** policies that govern your educational experience at VCC, please familiarize yourself with them.

The policies are located on the VCC web site at:

<http://www.vcc.ca/about-vcc/policies/index.cfm>

To find out how this course transfers, visit the BC Transfer Guide at [www.bctransferguide.ca](http://www.bctransferguide.ca).

### FOR COMMITTEE USE ONLY

<b>Date Approved by Education Council:</b>		<b>Date Approved by VCC Board (if applicable):</b>	
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