

Course Specification Student Version

Course Title:	Dental Materials Science -2
Course Code:	RDC 332
Department:	Dentistry
Program:	Bachelor of Medicine and Surgery
College:	Vision College in Riyadh
Institution:	Vision College in Riyadh
Revised:	July 2024

A. Course Identification

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| 1. Credit hours: 2 (1+1+0) |
| 2. Level/year at which this course is offered: Level 6/Year 3 |
| 3. Pre-requisites for this course (if any): RDC 331 |
| 4. Co-requisites for this course (if any): None |

B. Teaching Methods

1	Lecture
2	Practical Session

C. Course Description and Objectives

This is the third course in Dental Biomaterials Science. It consists of didactic and practical components.

It has two parts:

- (1) is to give the student a theory background about some dental biomaterials (like impression, die, wax, ceramic, preventive materials and polymer).
- (2) the practical components covering some of the basic technical aspects related to the manipulating some dental biomaterials.

2. Course Main Objective

At the end of this course, students will be able to:

- Describe fundamental strengths and weaknesses of each material.
- Understand and use different dental biomaterials (impression, model & casting biomaterials).
- Characterize each material as to its proper selection and intended use.
- List laboratory and/or clinical advantages and disadvantages for each material.

Manipulate prosthetic dental biomaterials.

3. Course Objectives

By the end of this course, students should be able to:

- Understand essential theoretical knowledge of basic sciences related to dental sciences.
- Learn structural, physical, mechanical properties of some dental materials (impression, die, wax, ceramic, preventive materials and polymer).
- Deeply explain advantages, disadvantages and uses of dental materials (impression, die, wax, ceramic, preventive materials and polymer)
- Identify and manipulate impression, die, wax, ceramic, preventive materials and polymer
- Establish collaborative teamwork and leadership responsibility

D. Course Content

No	List of Topics
1	Introduction to restorative dental materials
2	Impression Materials
3	Model, Die and Investment Materials
4	Wax
5	Casting, Wrought Alloy and Solder
6	Casting Technology
7	Polymers in Prosthodontics
8	Dental Ceramics
9	Digital Imaging and Processing for Restoration
10	Dental Implant Materials
11	Practical sessions

E. Assessment Tools

#	Assessment task	Percentage of Total Assessment Score
1	Written Exam (Midterm)	15%
2	Written Exam (Quizzes)	5%
3	Assignment Evaluation	10%
4	Laboratory Evaluation	20%
5	Written Exam (Final)	30%
	Total	100%

F. Learning Resources

Essential References	<p>- Restorative Dental Materials, 14th edition edited by Robert G.Craig and John M. Powers, 2016.</p> <p>Phillips' Science of Dental Materials, 12th ed. Eugene W. Skinner, Ralph W. Phillips, 2018.</p>
Supportive References	<p>Materials, Properties and Manipulation. 9th edition edited by John M. Powers and John.powers- Wataha, 2018.</p>
Electronic Materials	<ol style="list-style-type: none"> 1. Dental Materials Journal. 2. Online resources on MOODLE
Other Learning Materials	None