

The University of Jordan
Faculty of Dentistry
Department of Conservative Dentistry and Prosthodontics

Course Title: Dental Materials II - Theory

Course Code: 1302315

Prerequisite: None

Course Coordinator: Dr. Mohammad AL-Rabab'ah

Year: 4th year, first semester

Credit: 1 credit hour

Prerequisite for: Dental Materials I

Instructors:

Instructor	Email
Dr. Mohammad Al-Rabab'ah	malrababah@ju.edu.jo
Dr Ameen Khraisat	a.khraisat@ju.edu.jo
Dr Mohammad Hammad	Mhammad_jo@yahoo.com
Dr Nadia Eficiej	

Course Objectives:

- To provide the students with knowledge and understanding of the contemporary science of dental materials.
- To highlight the importance of new innovation in field of dental materials .
- To introduce the students to concept and principles of adhesion and bonding to tooth structure, ceramics and metal alloys .
- To provide the students with in depth knowledge of different applications of wrought wire alloys and their material science.
- To provide the students with in depth knowledge of different applications of casting alloys and their material science
- To provide the students with advanced comprehension of the nature of dental ceramics and their role in modern dental practices .
- To familiarize students with new advancement in dental materials .
- To let the students grasp the biological and environmental implications of restorative materials.
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Learning Outcomes:

Successful completion of this module should lead to the following learning outcomes:

- Students should gain essentials of basic knowledge and understanding of the concepts, principles and theories related to contemporary dental materials sciences.
- Students should be able to discuss and explain the interactions between tooth structure and dental materials .

- Students should be able to discuss and explain the concept and bonding to tooth structure and dental materials.
- Students should be able to have the necessary knowledge to discern the best usage of dental materials in evidence based context.
- Students should be able to understand and appreciate the biological implications of restorative materials

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A. Knowledge and Understanding (student should)

- Develop a wide range of back-ground knowledge and understanding of dental materials.
- Develop wide range knowledge and understanding of bonding systems, ceramics , metals and metal alloys.
- Have a comprehensive knowledge of endodontic materials.
- Be able to discuss and explain the biological responses of local and systemic tissues to biomaterials
- Be able to discuss and explain the concepts of etch and rinse& self etching adhesives.

B. Intellectual skills - with ability to

- Apply the knowledge of the basic sciences (Chemistry, Biology and Physics) to the science of applied dental materials.
- Understand and relate the properties and behavior of direct and indirect restorative dental materials to actual clinical longevity.
- Understand and appreciate the biological aspects of use of dental materials.
- Integrate the knowledge and understanding of the esthetic, biological and mechanical needs and consideration with the properties and limitations of clinical dental material.

C. Subject specific skills – with ability to

- Ability to differentiate between etch-and-rinse and self etching bonding agents.
- Identify and explain the uses of different metal alloys in dental applications.
- Identify the role of dental ceramics in restorative dentistry.
- Gain wide knowledge of endodontic filling materials and sealers.
- Select and explain the principles for handling various restorative dental materials in the restoration of damaged/missing teeth.
- To discuss and explain the biological aspects of new innovations in dental materials .
- To discuss and explain the concepts of esthetic dentistry and color science.

D. Transferable skills – with ability to

- Utilize the modern sources of information such as the internet and data basis to develop and update the knowledge in the field of applied dental materials.
- Appreciate the importance of clinical and laboratory based research in the development of new categories of restorative dental materials.
- Understand the importance of new advances in dental materials in shaping the future of contemporary dental practice.

Teaching methods:

- Duration: 16 weeks in 1st (4th year), 16 hours in total
- Lectures: 16 hours, 1 per week (including one 1-hour midterm exam exams and one 2-hours final exam)

Modes of assessment:

- Midterm exam : 40 points , SMA format
- Final Exam: 60points, MCQ format

Attendance policy:

Lecture attendance is obligatory. The handout and recommended textbook are not comprehensive and additional material will be covered in lectures. Students are responsible for all material covered in lectures. However, 15% allowed absence is granted for students by the university law.

Expected workload:

On average students are expected to spend between 1 to 2 hours per week on this course.

Course Content & Weight:

<i>Serial</i>	<i>Topic</i>	<i>Faculty</i>	
1.	Wrought alloys	Dr. Nadia Ereifij	1 hour
2.	Polymeric denture base materials	Dr. Nadia Ereifij	1 hour
3.	Metallic denture base materials	Dr. Nadia Ereifij	1 hour
4.	Adhesion surface phenomenon	Dr. AL-Rabab'ah	1 hour
5.	Bonding systems I	Dr. AL-Rabab'ah	1 hour
6.	Bonding systems II	Dr. AL-Rabab'ah	1 hour
7.	Endodontic materials I	Dr. Hammad	1 hour
8.	Endodontic materials II	Dr. Hammad	1 hour
9.	Dental casting alloys I	Dr AL-Rabab ah	1 hour
10	Dental casting alloys II	Dr AL-Rabab'ah	1 hour
11	Dental Ceramics I	Dr AL-Rabab'ah	1 hour
12	Dental ceramics II	Dr AL-Rabab'ah	1 hour
13	New development in dental materials	Dr Ameen	1 hour
14	Biological consideration for Dental Materials	Dr Ameen	1 hour

Feedback:

Concerns or complaints should be expressed in the first instance to the course instructor. If no resolution is forthcoming then the issue should be brought to the attention of the Department Chair and if still unresolved to the Dean. Questions about the material covered in the lectures, notes on the content of the course, its teaching and assessment methods can be also sent by e-mail or discussed directly with the corresponding lecturer on their designated office hours.

References and Supporting Material:

1. *Strongly recommended:*

- .Phillips' Science of Dental Materials, Anusavice, 11 edition, Elsevier science USA 2003.
- Dental Materials Journal; the corresponding articles will be provided by course coordinator/instructor.