

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

Course Title: Dental Materials I - Theory

Course Code: 1302221

Prerequisite: None

Course Coordinator: Dr. Mohammad AL-Rabab'ah

Year: 2nd year, 2nd semester

Credit: 1 credit hour

Prerequisite for: Dental Materials II

Instructors:

Instructor	Email
Dr. Mohammad Al-Rabab'ah	malrababah@ju.edu.jo
Dr Sahar Taha	staha@ju.edu.jo

Course Objectives:

. The objectives of this course are:

- To introduce the students to the basics of Material Science.
- To introduce the students to the Materials used in Dentistry.
- To familiarize students with the characteristics and properties of dental materials.

Learning Outcomes:

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

- The ability to classify different material categories.
- The ability to differentiate between different classes of material according to their physical and mechanical properties.
- The ability to describe and explain the behavior of different classes of materials.
- The ability to classify different dental material categories.
- The ability to describe and explain the behavior of different classes of dental materials when they are used in their specific application.

A. Knowledge and Understanding (student should)

- Be able develop a wide range of back-ground knowledge and understanding of material science that will help him/her understand the specifics of dental materials.
- Be able develop a wide range of back-ground knowledge and understanding of dental materials with regard to their physical and mechanical properties in addition to the chemical structures that will help him/her understand the specific applications of these materials.

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 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

- Utilize the knowledge of dental material science in the subsequent courses that follow.
- To select and use any dental material according to its specific properties in a specific dental application within the courses that follow.

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.

Teaching methods:

- Duration: 16 weeks in 2nd semester (2nd 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:

1. Introduction	1 hour
2. Physical and mechanical properties of materials I	1 hour
3. Physical and mechanical properties of materials II	1 hour
4. Polymers and polymerization	1 hour
5. Waxes	1 hour
6. Gypsum products	1 hour
7. Metals and alloys	1 hour
8. Dental amalgam	1 hour
9. Cements I	1 hour
10. Cements II	1 hour
11. Resin based composites I	1 hour
12. Resin based composites II	1 hour
13. Impression materials I	1 hour
14. Impression materials I	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:

- .Phillips' Science of Dental Materials, Anusavice, 11 edition, Elsevier science USA 2003. Anderson Applied Dental Materials, McCabe J F, 8th edition, Blackwell scientific publications.
- Notes on Dental Materials, Combe E C, 6th edition, Churchill Livingstone.
- CRAIG'S RESTORATIVE DENTAL MATERIALS. John Powers, Ronald Sakaguchi Mosby 2006.
- Dental Materials Journal; the corresponding articles will be provided by course coordinator/instructor.