

Course Description Form

1. Course Name:	
Dental materials	
2. Course Code: ZUDE0207	
3. Semester / Year: 2025-2026	
Annual	
4. Description Preparation Date:	
15/8/2025	
5. Available Attendance Forms:	
weekly	
6. Number of Credit Hours (Total) / Number of Units (Total)	
30 hours (one theoretical hours week)	
7. Course administrator's name (mention all, if more than one name)	
Name:sundus mohammad ali Email:sundus.mohammad@alzahu.edu.iq	
8. Course Objectives	
Course Objectives	Learning the students various and numerous materials used in the field of dentistry, which are used in various branches of dentistry (prosthodontic, restorative dentistry, and orthodontics). In addition to introducing students to the best ways to use these materials to obtain the best results. Also, how to deal with different problems and medical conditions and how to find solutions by choosing the right materials for each case.
9. Teaching and Learning Strategies	
Strategy	In order for the student to be able to be familiar with all the materials used in the field of dentistry, this course studies the materials in terms of their chemical and physical properties, their components, and the method of using them to obtain the best results. The student will also be able to find solutions to the medical problems he faces by using the available materials correctly.

10.Course structure					
Week	Hours	Subject name	Required learning outputs	Learning method	Assessment method

1	1	Introduction and physical properties of dental material	Introduction to dental materials ☐ Physical, chemical and biological properties of dental materials	Power Point	Quiz
2	1	Mechanical properties	Mechanical properties	Power Point	Quiz
3	1	Gypsum materials	Definition, requirement, types, ☐ gypsum bonded investment ☐ phosphate bonded investment ☐ ethyl silicate bonded	Power Point	Quiz
4	1	Gypsum materials		Power Point	Quiz
5	1	Impression materials	Definition ☐ Ideal properties of impression materials ☐ Classification of impression materials ✓ Non elastic impression materials ➤ Impression plaster ➤ Impression compound ➤ Zinc oxide - eugenol ✓ Elastomeric impression material	Power Point	Quiz
6	1	Impression materials		Power Point	Quiz
7	1	Impression materials		Power Point	Quiz
8	1	Impression materials		Power Point	Quiz
9	1	Impression materials		Power Point	Quiz
10	1	Waxes	☐ Definition, ☐ Requirements, ☐ classification of wax according to origin & melting point, ☐ classification of wax according to uses, properties of dental waxes.	Power Point	Quiz
11	1	Waxes		Power Point	Quiz
12	1	Polymers	Polymers and polymerization ☐ Definition of polymer, co-polymer, cross-link polymer and Degree of polymerization	Power Point	Quiz
13	1	Polymers		Power Point	Quiz

			☐ Factors which control structure and properties of polymer ☐ Types of polymerization ☐ Heat activated acrylic ☒ Chemically activated resin resin compared to heat activated resins ☐ Polymers used in dentistry ☐ Processing errors		
14	1	Investment materials	☐ factors affecting setting time, setting expansion, strength, storage and manipulation of gypsum products, and hygroscopic expansion	Power Point	Quiz
15	1	Cement materials	Classification of dental cements ☐ Definition ☐ Requirements	Power Point	Quiz
16	1	Temporary filling	Definition indication ☐ Types ☐ Requirements	Power Point	Quiz
17	1	Metal and metal alloy	Metallic denture base materials ☒ Types of metal and metal alloys ☒ Definition of alloy ☒ Requirement of casting alloy ☒ Application of dental alloy ☒ classification of metal ☒ classification of dental alloy ☒ gold foil (advantage, disadvantages)	Power Point	Quiz
18	1	Metal and metal alloy		Power Point	Quiz
19	1	Metal and metal alloy		Power Point	Quiz
20	1	Metal and metal alloy		Power Point	Quiz
21	1	Filling materials	Direct filling material ☐ Definition	Power Point	Quiz
22	1	Filling materials	☐ Factors causing loss of tooth substance	Power Point	Quiz

23	1	Filling materials	☐ Requirement of an ideal filling material. ☐ Classification of filling material	Power Point	Quiz
24	1	Filling materials	☐ Anterior filling materials Disadvantages Composite filling materials composition and structure Types of composite ☐ Posterior filling materials Dental amalgam ☐ Classification of amalgam alloys ☐ Properties of set amalgam ☐ Shaping and finishing ☐ Mercury toxicity	Power Point	Quiz
25	1	Preventive materials	Types of Preventive materials	Power Point	Quiz
26	1	Root canal filling materials (obturating materials)	Root canal filling materials (obturating materials)	Power Point	Quiz
27	1	Finishing and polishing material		Power Point	Quiz
28	1	Relining material	Definition ☐ Types ☐ Requirements ☐ Indication ☐ Soft liners ☐ Types ☐ Requirements ☐ Indication ☐ Properties	Power Point	Quiz
29	1	Implant materials	Implant materials	Power Point	Quiz
30	1	Maxillofacial materials	Maxillofacial materials	Power Point	Quiz

11.Course Evaluation

• Midyear written exam: 15 marks • Annual pursuit: 25 marks • Final clinical exam: 20 marks • Final written exam; 40 marks	
12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	1. Craig's restorative dental materials. 2. Philips dental material.
Main references (sources)	1. Seminars. 2. Virtual Library.
Recommended books and references (scientific journals, reports...)	1. Journal of prosthetic dentistry. 2. Journal of IDA.
Electronic References, Websites	Iraq Virtual Science Library (IVSL)

