Faculty of Oral & Dental Medicine

Biomaterials

Information :

Course Code :	PROS 242	**Level :**	Undergraduate	**Course Hours :**	3.00- Hours

Department : Faculty of Oral & Dental Medicine

Instructor Information :

Title	Name	Office hours
Professor	Gihan Hafiz Wally Ahamd Atallah	
Associate Professor	Amr Mohamed Rabieh Elsharawy	2
Lecturer	MOHAMED MAHMOUD ABDELFATAH AMMAR	20
Assistant Lecturer	WALAA MOSTAFA NEMR BAYAA	6
Teaching Assistant	Ahmed Mohamed Abdelaleem Mohamed elsaid Shhatah	8

Area Of Study :

ÅTo analyze the benefits and limitations of dental materials.
ÅTo make rational decisions on the selection of dental materials and use in a clinical practice.

Description :

Models and die materials , invesiment materials waxes impresion materials , dental casting and base metal alloys , casting technolgy and joining of metals
amalgum and cental ceramics , poreclian metal restorations , dental cements , denture base resin , direct ethetic restorative materials

Course outcomes :

a.Knowledge and Understanding: :

1 -	Understanding chemistry of setting, basic principles and technical considerations of gypsum / products list the different die materials used in dentistry
2 -	Recognize the requirements, components and types of investment materials
3 -	Recognize the purpose, requirements, classifications, and general characteristics of impression materials list the different types, properties, compositions of waxes
4 -	Identify casting procedures and the possible defects
5 -	Recognize the different types of dental casting alloys, their properties, methods of casting and uses.
6 -	Identify the different types of wrought base metal alloys and their properties Express metal joining terminology
7 -	Describe soldering and welding procedures
8 -	Recognize the structure, properties and technical considerations of dental amalgam.
9 -	Identify the types, properties, processing techniques of denture base resins.
10 -	List the different resilient liners and tissue conditioners for dentures.

11 -	Identify the different types of direct esthetic restorative materials, their requirements, compositions, properties and clinical applications.
12 -	Recognize the different classes of ceramics, their compositions and method of strengthening.
13 -	Discuss dental cements, their classification, uses and properties.
14 -	Discuss the newly introduced materials and describe a criterion for their selection.
b.Intellectual Skills: :	
1 -	Demonstrate appropriate professional attitudes and behavior in dealing with staff members & helping personnel.
2 -	Apply the information technology as a mean of communication for data collection and analysis and for life-long learning..
3 -	Handle with care any materials and equipments.
c.Professional and Practical Skills: :	
1 -	Identify the different dental materials and their mode of supply.
2 -	Properly manipulate the different dental materials.
3 -	Select the appropriate material suitable for each clinical situation.
4 -	Point out the different prosthesis.
d.General and Transferable Skills: :	
1 -	Communicate effectively with colleagues, staff members and helping personnel
2 -	Demonstrate appropriate professional attitude and behavior in different Situations

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Model and Die Materials	4	Impression Materials	Impression Materials
Investment Materials	4	Impression Materials	Impression Materials
Casting technology	4	Model and Die Materials	Model and Die Materials
Dental Casting Alloys	4	Investment Materials	Investment Materials + Casting Technology
Impression Materials	4	1st mid-term exam +	Ceramics
Dental Cements	4	Non-Metallic Denture Base Materials	Non-Metallic Denture Base Materials
Direct Esthetic Restorative Materials	4	Dental Cements	Dental Cements
None Metallic Denture Base	4	Dental Cements	Dental Cements

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Dental Ceramics	4	Dental Amalgam	Dental Amalgam
Dental Amalgam	4	2nd mid-term exam + Dental Amalgam	Dental Amalgam
Wrought Wire Alloys	4	Direct Anterior Esthetic Materials	Direct Anterior Esthetic Materials
Joining of metals and alloys	4	Direct Anterior Esthetic Materials	Direct Anterior Esthetic Materials

Teaching And Learning Methodologies :

Lectures

Practical

small group sessions.

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Final written Examination	25.00	16	
first mid term	15.00	5	knowledge and understanding
Oral Examination	10.00	16	knowledge and understanding.
Practical Examination	15.00	15	practical skills
second mid term	15.00	10	knowledge and understanding
Semester Work	20.00		practical skills

Course Notes :

Hand out : available for students from the department

Recommended books :

ÅRestorative Dental materials edited by RG Craig.
ÅPhillips' Science of Dental materials.