Faculty of Oral & Dental Medicine

Laser Applications for Medicine & Periodontology

Information :

Course Code :	MPDR 551	**Level :**	Undergraduate	**Course Hours :**	2.00- Hours

Department : Faculty of Oral & Dental Medicine

Instructor Information :

Title	Name	Office hours
Professor	Gihan Abdelfattah Abdelaal Omar	2
Lecturer	Mona Ahmad Saeed Mokhtar Mohamed Nour	4
Lecturer	Mona Ahmad Saeed Mokhtar Mohamed Nour	4
Lecturer	SARA ZAKARIA FAHIM FANOS	2
Lecturer	SARA ZAKARIA FAHIM FANOS	2
Assistant Lecturer	Rana Mohamed Ashrf Hazem Ibrahim	12
Assistant Lecturer	Rana Mohamed Ashrf Hazem Ibrahim	12
Teaching Assistant	Dina Nasser Tawfik Mahmoud Gibriel	2

Area Of Study :

1. To demonstrate general understanding of laser use in dentistry
2. To improve the health and well being of patients through the proper use of laser technology.
3. To overview the research and clinical aspects of the safe and effective uses of lasers in dentistry

Course outcomes :

a.Knowledge and Understanding: :	
1 -	1. Understand the scientific and clinical principles of lasers in dentistry.
2 -	2. Learn basic concepts of laser physics and segmentation of wavelengths.
3 -	3. Understand the nature of light, the light spectrum and laser wavelengths.
4 -	4. Understand the basic elements of laser - tissue interaction.
5 -	5. Become familiar with different types of laser used in dentistry
6 -	6. Acquire thorough knowledge of laser set up, delivery system and power settings.
7 -	7. Acquire thorough knowledge of laser applications used in dental soft tissue management.
8 -	8. Acquire thorough knowledge of laser applications used in dental hard tissue management.
9 -	9. Become familiar with laser use protocols.
10 -	10. Learn laser safety and infection control in the dental practice.
b.Intellectual Skills: :	
1 -	1- Make decisions regarding proper proper laser type, mode, and frequency.

2 -	2- Understand the wide advantages of using laser in the dental office.
c.Professional and Practical Skills: :	
1 -	1- Gain experience with the use of lasers through hands-on clinical simulation.
2 -	2- Laser applications used in dental soft tissue management.
3 -	3- Laser applications used in dental hard tissues.
4 -	4- Learn how to successfully integrate laser use in treatment diagnosis.
d.General and Transferable Skills: :	
1 -	1- Regularly assess oneôs knowledge and skills, and seek additional information to correct deficiencies and enhance performance.
2 -	2- Implement and monitor infection control and environmental safety programs according to current standards.

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Introduction to the course	3		ÅIntroduction to DD and description of the lesion
The Nature of Light	3		ÅPeriapical RL Å Pericoronal RL
The Wonderful World of Dental Lasers	3		ÅSolitary well defined RL ÅSolitary ill defined
Laser generation	3		ÅInter-radicular RL Å Multilocular RL
Laser-tissue interaction	3		ÅMultiple separate RL ÅGeneralized RL
Laser in dentistry(advantages and limitations)	3		ÅDD Excersises on RL lesions
The family tree of lasers in dentistry	3		ÅMixed lesions related to teeth (periapical and p
The family tree of lasers in dentistry(cont)	3		ÅMixed lesions not related to teeth
Clinical cases, soft tissue	3		ÅRO lesions
Clinical cases, soft tissue(cont.)	3		ÅDD Excersises on mixed and RO lesions
Clinical cases, hard tissue	3		ÅClinical Demonstration
Clinical cases, hard tissue(cont)	3		ÅClinical Demonstration
Laser safety	3		ÅClinical Demonstration
Laser regulations	3		ÅClinical Demonstration

Teaching And Learning Methodologies :
Lectures
Open ï discussion lectures
Demonstrations
videos
Case studies
Work sheets
Report back sessions

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Class work	20.00		
Final Examination	50.00		
Midterm exams	30.00		

Recommended books :

ÅAtlas of Laser Applications in Dentistry Coluzzi DJ, Convissar RA. 2007
ÅDental Applications of Advanced Lasers 2004 Edition Jeffrey G. Manni