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| 1 | Course title | Conservative Dentistry practical-2 |
| 2 | Course number | 1302317 |
| 3 | Credit hours (theory, practical) | 1 |
| | Contact hours (theory, practical) | 30 |
| 4 | Prerequisites/corequisites | none |
| 5 | Program title | DDS program |
| 6 | Program code | |
| 7 | Awarding institution | University of Jordan |
| 8 | Faculty | Dentistry |
| 9 | Department | Conservative Dentistry |
| 10 | Level of course | 3rd year |
| 11 | Year of study and semester (s) | 1st and 2nd semesters 2022/2023 |
| 12 | Final Qualification | DDS |
| 13 | Other department(s) involved in teaching the course | None |
| 14 | Language of Instruction | English |
| 15 | Date of production/revision | September 2022 |

16. Course Coordinator:

Officenumbers,officehours, phonenumbers,andemailaddresses shouldbelisted.

Dr. Sanaa Aljamani. Office hours: Thursday4 pm– 5 pm

Phone no. 23555

E–mail: sana.jamaani@gmail.com

17.Other instructors:

Officenumbers,officehours, phonenumbers,andemailaddresses shouldbelisted.

Full-time staff:

Dr. Rawan Abu Zaghlan.

Dr. Sanaa Aljamani

Part-time staff:

Dr. Eyad Al Khateeb

Dr.Muna Alali

Dr. Malaka Zahran

Dr. Moayad Assaf

Dr. Hassan Abdallah

Dr. Layla Aldrini

18. Course Description:

A 28-weeks preclinical laboratory course. One session of 2-hours duration per week/every other week
Practical preclinical training of root canal treatments on extracted human teeth mounted in blocks or in the phantom-head.

19. Course aims

and outcomes:

Course objectives are:

- To teach the students the necessary fundamental manual practical skills for root canal treatment that would furnish the ability to deal with patients that need endodontic treatment in a clinical setting.
- To familiarize students with the internal anatomy of teeth, pulp and root canal system.
- The students should be able to carry out access cavity, cleaning and shaping and obturation of root canals of human extracted teeth.
- The students should learn when and how to use radiographs during root canal treatment.
- The students should learn when and how to use various endodontic instruments and devices during root canal treatment.
- To practice proper basic occupational and patient safety standards (patient position, practitioner seating, hand piece grip and support, indirect vision, rubber dam) in a simulated clinical setting.
- To introduce the general principles of cross-infection control standards and management of sharps in a simulated clinical setting.
- Students should work in teams in order to prepare a short oral presentation in relevant endodontic topics for assessment.
- Students should be prepared prior to any lab to take part in quizzes for assessment.

Intended Learning Outcomes:

Successful completion of this course should lead to the following:

- Students should gain practical skills related to the concepts, principles and methods of root canal treatment.
- Students should be able to identify and use various endodontic instruments and materials used for root canal treatment teeth.
- Students should be able to recognize and evaluate the complexity of the internal anatomy of the tooth and the pulp and root canal system.
- Students should be able to use manual and digital radiographs and to identify when they are used.
- Student should be able to apply various rubber dam isolation techniques and identify when they are used.
- Student should be able to understand and apply inter-appointment management strategies and interim restorations.

A. Knowledge and Understanding:

- To gain full knowledge of the internal anatomy of the tooth and the pulp and root canal system.
- To understand the principles and concepts of methods and practices used for root canal treatment.

- To understand when and how to use the different endodontic instruments, materials and devices including radiographs.
- To gain basic understanding of the process of clinical and radiographic examination plus record keeping
- To understand the pre-treatment considerations in endodontic treatment and how the treatment can be modified accordingly
- To be able to self-assess performance and knowledge.

B. Manual skills, with ability to:

- Recognize and evaluate the complexity of the internal anatomy of the tooth and the pulp and root canal system.
- Gain the ability to effectively use endodontic instruments and materials
- Practically carry out access cavity, cleaning and shaping and root canal filling on extracted human teeth.
- Apply various rubber dam isolation techniques and carry out treatments while in situ
- Use apex locators for working length determination
- Place interim restorations and build-ups for broken down teeth.
- Taking and interpreting digital radiographs for extracted human teeth.

20. Topic Outline and Schedule:**Practical****CourseDuration:****October 2021–****June2022****Duration:** 32 weeks in 1st and 2nd semester (3rd year), 64 hours in total

First semester lab/every other week (5 subjects in total)

Second semester lab/week (10 topics and final examination)

Lectures/Practical Sessions:64 hours, a 2-hour session every week (including a 2-hour final practical exam).

- Students will be asked to perform root canal treatment on extracted human teeth
- Treatment will be divided into three major steps; access cavity, cleaning and shaping and obturation.
- Apex locators will be used on plastic tooth model and extracted teeth as a demonstration
- Interim and temporary restorations will be performed and intracanal medicaments placed.
- Treatment will be carried out on anterior, premolar and molar teeth

First Semester 2021/2022 Endodontic laboratory Syllabus

| Topic | Date | Topic | | |
|-------|---|---|--|--|
| | | Procedures | Tooth | Area |
| | | FIRST SEMESTER (every other week) | | |
| 1 | 1 st 2 nd week 9-16/10 | Introduction: Disinfection lab instructions Endodontic instruments check. Radiographic units and use Teeth in Wax wrapping | - | - |
| 2 | 3 rd 4 th week 23-30/10 | Anterior teeth access cavity Demo and practice | Upper and lower anterior teeth (canine to canine) | Bench-side |
| 3 | 5 th 6 th week 6-13/11 | Pre-molar teeth Access cavity Demo and practice | Upper and lower premolar teeth (preferably multi-rooted) | Bench-side |
| 4 | 7 th 8 th week 20-27/11 | Practical task (10 marks) Quiz (10 marks) | Access Anterior/ Premolar (per session) Online open book quiz | Practical task (10 marks) Quiz (10 marks) |
| 5 | 9 th 10 th week 4-11/12 | Molar teeth Access cavity and canal identification | Upper molar | Bench-side |
| 6 | 11 th 12 th week 18-25/12 | Anterior teeth Working length determination Apex locator (demo first 30 mins) Radiographic techniques (Rest of the lab for each student) Step-back technique (Biomechanical preparation) | Anterior teeth for this lab. applicable to the rest of the teeth | Demo in alginate blocks Bench-side for students |

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| 7 | 13 th 14 th week 1-8/1 | Obturation of anterior teeth Cold lateral condensation Online quiz (OSCE style) 10 marks End of first semester | Anterior teeth | Bench-side |
| | | Second semester Weekly basis | | |
| Topic | date | Procedures | Tooth | Area |
| 9 | 2 nd week | Pre-molar teeth Obturation (cold lateral condensation) | Upper and lower premolar teeth (preferably multi-rooted) | Bench-side |
| 10 | 3 rd week | Molar teeth Working length and biomechanical preparation | Upper/lower molar | |
| 11 | 4 th week | Molar teeth Obturation (cold lateral condensation) | Upper/lower molar | |
| 12 | 5 th week | Molar teeth (catch-up) Online Quiz (10 marks) | Lower/upper molar | Bench-side |
| 13 | 6 th week | Rubber Dam Demonstration of rubber dam placement techniques | Plastic teeth Full set in the jaw | Phantom head |
| 14 | 7 th week | Practical task rubber dam placement (10 marks) | By instructor | Phantom head |
| 15 | 8 th week | Special investigation Apex locator and special investigation (cold test, EPT) Radiology and film holders | Hands on to practice on each | Phantom/ bench-side with alginate model |
| 16 | 9 th week | Restorative management of teeth Build-up and temporization for Endodontically treated teeth n | Maxillary/ mandibular molar / PM | Bench side/ |

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| 17 | 10 th week | Phantom head access Upper teeth | Upper Ant. PM, Molar | Phantom head |
| 18 | 11 th week | Practical assessment Indirect access cavity Upper anterior (10 marks) | | |
| 19 | 12 th week | Catch-up session | | |
| | | Final exam | | |
| | | Final exam | | |

The marks will be counted as the following:

1. Term-time assessments: (60%)

- 3 Quizzes (10 marks each)
- 3 term-time tasks (10 marks each)
 - (Dental dam application)
 - (Working length radiograph and obturation)
 - (Access cavity and instrument knowledge)
 - (Interim restoration and build-up)

2. Final exam: 40%

- 30 marks OSCE online
- 10 marks clinical assessment on (Molar / PM access cavity, deroofting and canal identification and WL determination) :

21. Teaching Methods and Assignments:

Development of ILOs is promoted through the following teaching and learning methods:

Teaching and learning methods:

Data show presentations

Visual Videos

Live demonstrations

Class discussions

Tooth identification

Examination of the tooth visually and radiographically

Drawing and understanding access cavity form and outline

Record keeping

Practically apply on extracted human teeth

Informal assessments according to a set assessment criterion for each procedure

Reflective learning through self-assessment

Assignments:

Open-book online assignments includes watching a full interactive video or answering a standardized quiz for all the groups.

Practice on self-criticism or assessment of certain tasks to be able to improve on problem solving ability of students

Hands-on tasks that focus on manual skills of each student to ensure competencies in root canal treatment procedures.

22. Evaluation Methods and Course Requirements:

1. Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

2. A combination of term-time assessments, online quizzes, OSCE and final formal examination.

The following table shows the tasks to be completed

| Tasks to be completed | | Assessment | Marks |
|--------------------------------|--|-----------------------------------|--------------------|
| 1st Semester | Anterior RCT | <i>Informal</i> | 0 |
| | Premolar RCT | <i>Informal</i> | 0 |
| | Molar Access | <i>Informal</i> | 0 |
| | Quizzes and tasks to be completed <i>RCT for single rooted tooth (Bench-side)</i> | <i>Formal</i> <i>Practical</i> | 30-40 marks |
| 2nd Semester | Interim restoration, temporary and build-ups | <i>Informal</i> | 0 |
| | Apex locator use | <i>Informal</i> | 0 |
| | Rubber dam placement | - | 0 |
| | <i>Practical placement of rubber dam and single isolation for endodontic purposes. And online</i> | | 20-30 marks |

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| | quizzes | | |
| | Final exam (OSCE and clinical exercise) | <i>Formal</i> | 40 marks |
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23. Course Policies:

A- Attendance policies:

- Students are allowed **15% absence** according to university laws. This translates into 5 clinics for 3rd year students in the conservative dentistry practical 2 course (endodontics).
- Any student who comes late to the clinic (15 minutes after the start of the Lab) will be announced as absent. Please try to be on time as no extra time will be compensated.

B- Absences from exams and handing in assignments on time:

According to the roles and regulations of the University of Jordan

C- Health and safety procedures:

According to the roles and regulations of the Faculty of Dentistry

D- Honesty policy regarding cheating, plagiarism, misbehaviour:

According to the roles and regulations of the University of Jordan

E- Grading policy:

According to the roles and regulations of curriculum for the academic degree of Doctor of Dental Surgery (DDS)

F- Available university services that support achievement in the course:

None

G- Violation system will incur mark deduction after three warnings in the following:

- Professionalism and punctuality (arriving on time)
- Cross infection control
- Handling of Sharps
- Lack of preparedness for the procedure

24. Required equipment:

Handpieces, high and low
Radiographic films and processing machines
Apex locators

Instruments:

Low and high speed burs, mirror, tweezers, endodontic explorer, Rubber dam kits (sheet, various clamps, frame) K-files of various sizes and lengths, H-files of various sizes, Gates Glidden burs, irrigating needles, hand or finger spreaders, pluggers, endodontic spoon, plastic instrument, scissors, radiograph clip, radiograph envelopes, mixing bowl and spatula, matrix band and retainer,

Materials:

Extracted human teeth, dental radiographs, gutta percha and sealer, glass ionomer cement, Temporary restorative material.

25. References:

A- Required book (s), assigned reading and audio-visuals:

Endodontics: Principles and Practice, 4th edition, Walton and Torabinejad

26. Additional information:

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.

Name of Course Coordinator:**Dr. Sanaa Aljamani**

Signature: -SANAA

Date: 1/9/2022

