### uqudent



**Umm Al-Qura University**

**Faculty of Dentistry**

**Vice Deanship of Academic Development & Community Service**

وحدة تطوير المناهج

**Curriculum Development Unit**

**جامعــة أم القــرى**

**كلية طب الأسنان**

**وكالة الكلية للتطوير الأكاديمي وخدمة المجتمع**

**Kingdom of Saudi Arabia**

**The National Commission for Academic Accreditation & Assessment**

**Course Spécifications**

**(CS)**

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| **Course Name** | Cariology I | |
| **Course Code** | 190133112 | |
| **Academic Level** | 3rd Level | |
| **Semester** | 1st | |
| **Study Plan No** | 33 | |
| **Department** | Basic & Clinical Oral Science | |
| **Divisions** | Oral Biology, Oral Pathology, Oral Radiology, Microbiology, Immunology | |
| **Academic Year** | 2018-2019 AD – 1439 -1440 AH | |
| **Contact hours** | Theoretical | 10 / week |
| Practical | 2 / week |
| Clinical | Non / week |
| **Total Contact Hrs** | 12 / week | |
| **Total Credit Hrs** | 11 | |

UQU-DENT: F0401-01/02

**Course Spécifications**

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| Institution: Umm Al Qura University Date of Report: 20/9/2018 |
| College/ Department: College of Dentistry**/**Department of Basic and Clinical Oral Sciences |

**A. Course Identification and General Information**

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| 1. Course title and code:Cariology I, Code: 190133112 |
| 2. Credit hours**:** 11 credit hrs. |
| 3. Program(s) in which the course is offered: Bachelor Degree of Dental Medicine and Surgery (B.D.S.)  (If general elective available in many programs indicate this rather than list programs) |
| 4. Name of faculty member responsible for the course: Dr. Sherif Sayed Hassan |
| 5. Level/year at which this course is offered: Third year (First semester) |
| 6. Pre-requisites for this course (if any): Successful completion of the 2nd year courses. |
| 7. Co-requisites for this course (if any) courses that are taken concurrently with this course:  Oral medicine I, Applied Medical Sciences & Preclinical Operative Dentistry. |
| 8. Location if not on main campus: The course is offered in the main campus at Al-Abedia Area. |
| 9. Mode of Instruction (mark all that apply)  a. Traditional classroom 80%  b. Blended (traditional and online)  c. e-learning 10%  d. Correspondence  e. Other 10%  Comments:  a. Traditional classroom in the form of face to face interactive lectures.  c. e-learning using strategies of computer based assignments, presentations & case studies as part of problem based learning.  e. Other: practical sessions for demonstrations of the normal histological features of the tooth development and structures & histopathological features of dental caries and its complications. |

**B. Objectives**

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| 1.0 | **What is the main purpose for this course?**  The goal of this course is to allow the student to integrate basic medical and dental sciences of four disciplines (oral biology, microbiology, immunology, oral pathology and radiology); in order to understand the normal development and normal structures of teeth, the principles of dental caries and its complications and how these integrated knowledges must be applied for patient care during his/her practice of dentistry.  The course is offered through lectures, tutorials and practical sessions. Lectures are mainly delivered by interactive lectures. Practical sessions follow lectures where students show demonstrations of histological/histopathological tissue sections. This course is delivered in one semester & has 9 credit hours. |
| 2.0 | Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field): |
| 2.1 | Specifying assignment to students based on searches on electronic scientific journals related to the course. |
| 2.2 | Constructing case studies at the end of each major topic to enhance problem solving & critical analysis skills of students. |
| 2.3 | Enhancing the hierarchy of cognitive skills of the learning outcomes of lectures to focus on the levels of application and analysis in most topics. |
| 2.4 | Using rubrics (analytic scoring rubrics) as objective assessment tools for evaluating students' assignments & presentations. |
| 2.5 | Supplying every 2 students with complete set of microscopic slides for required histological & histopathological features to enhance student's skills in identification & interpretation of microscopic features of tissues. |
| 2.6 | Implementing OSPE in practical exams. |

**C. Course Description (Note: General description in the form to be used for the Bulletin or handbook should be attached)**

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| **1.0** | **Topics to be Covered:** | | |
|  | **List of Topics** | **No. of**  **Weeks** | **Contact Hours** |
| 1.1 | Development of tooth and supporting tissues. | Over 2 W | 14 Hrs. |
| 1.2 | Enamel composition, formation and structure. | Over 2 W | 14 Hrs. |
| 1.3 | Dentin, composition, formation and structure. | Over 1 W | 12 Hrs. |
| 1.4 | Developmental disturbances & regressive changes of teeth | Over 2 W | 14 Hrs. |
| 1.5 | Normal bacterial flora of the oral cavity. | Over 1 W | 4 Hrs. |
| 1.6 | Immune components of the oral cavity. | Over 1 W | 1 Hrs. |
| 1.7 | Microbiology of Dental plaque**.** | Over 1 W | 2 Hrs. |
| 1.8 | Microbiology of Dental caries. | Over 1 W | 2 Hrs. |
| 1.9 | Immunological aspects of dental caries | Over 1 W | 1 Hrs. |
| 1.10 | Etiology of dental caries | Over 1 W | 2 Hrs. |
| 1.11 | Clinical aspects of dental caries. | Over 1 W | 2 Hrs. |
| 1.12 | Histopathology of dental caries. | Over 1 W | 4 Hrs. |
| 1.13 | Radiographic interpretation of dental caries & dental anomalies. | Over 1 W | 2 Hrs. |
| 1.14 | Dental pulp & age changes of dental tissues | Over 1 W | 6 Hrs. |
| 1.15 | Pulp diseases. | Over 1 W | 6 Hrs. |
| 1.16 | Periapical lesions. | Over 1 W | 6 Hrs. |
| 1.17 | Osteomyelitis. | Over 1 W | 6 Hrs. |
| 1.18 | Complication of dental caries& spread of dental infection | Over 1 W | 6 Hrs. |
| 1.19 | Radiographic interpretation of pulp & periapical diseases | Over 1 W | 4 Hrs. |
| 1.20 | Presentation in oral biology , oral pathology & microbiolg. | Over 1 W | 6 Hrs. |
| 1.21 | Revision and CPC of the previous topics. | Over 2 W | 16 Hrs. |
|  | **Total** |  | **130** Hrs. |

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| **2.0 Course components** (total contact hours and credits per semester): | | | | | | |
|  | Lecture | Tutorial | Laboratory | Practical | Other: | Total |
| **Contact**  **Hours** | 106 Hrs. |  | 24 Hrs. |  |  | 130 Hrs.. |
| **Credit** | 10 Credits |  | 1 Credit |  |  | 11 Credits. |

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| **3.0 Additional private study/learning hours** expected for students per week. |

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| **4.0 Course Learning Outcomes** in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy |

Course Learning Outcomes, Assessment Methods, and Teaching Strategy work together and are aligned. They are joined together as one, coherent, unity that collectively articulate a consistent agreement between student learning, assessment, and teaching.

The ***National Qualification Framework*** provides five learning domains. Course learning outcomes are required. Normally a course has should not exceed eight learning outcomes which align with one or more of the five learning domains. Some courses have one or more program learning outcomes integrated into the course learning outcomes to demonstrate program learning outcome alignment. The program learning outcome matrix map identifies which program learning outcomes are incorporated into specific courses.

On the table below are the five NQF Learning Domains, numbered in the left column.

**First**, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. **Fourth**, if any program learning outcomes are included in the course learning outcomes, place the @ symbol next to it.

**Every course is not required to include learning outcomes from each domain.**

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|  | **NQF Learning Domains**  **And Course Learning Outcomes** | **Course Teaching**  **Strategies** | **Course Assessment**  **Methods** |
| **1.0** | **Knowledge** | | |
| 1.1 | Recognize normal development, basic genetics, and biology of tooth structure as well as microbiology of normal flora. | * Interactive lecture. * Practical sessions. * Assignments and presentations. | * Quiz * Midterm written exam * Midterm OSPE and Practical exams. * Final written exam. * Final OSPE and Practical exams. * Assessment of group presentation using rubric. * PBL assessment using rubric |
| 1.2 | Outline the etiology, pathogenesis, clinical, radiographical, and histopathological features of teeth abnormalities. |
| 1.3 | Describe Etiology, pathogenesis, bacteriology, Classification, radiographic features of Dental carries and its sequels. |
| **2.0** | **Cognitive Skills** | | |
| 2.1 | Correlate between tooth development and structure along with dental caries process. | * Interactive lecture. * Practical sessions. * Assignments and presentations. | * Quiz * Midterm written exam * Midterm OSPE and Practical exams. * Final written exam. * Final OSPE and Practical exams. * Assessment of group presentation by the use of rubric. * PBL assessment by the use of rubric. |
| 2.2 | Interpret radiographic features of dental Caries to reach its clinical significance. |

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| **3.0** | **Interpersonal Skills & Responsibility** | | |
| 3.1 | Cooperate with a team to use problem solving skill, manage time, information to collect data for proper presentation skills | * Team based learning. * Thinking based learning. | * Assessment of group presentation using rubric. * PBL assessment using rubric. |
| **4.0** | **Communication, Information Technology, Numerical** | | |
| 4.1 | Assess, and criticize the medical information from medical web sites and present knowledge effectively and share the data with another peer. | * Assignments and presentations. * PBL assignment. * Radiographic case presentation in oral radiology. | * PBL assessment using rubric. * Assessment of group presentations by the use rubric. |
| **5.0** | **Psychomotor** | | |
| 5.1 | Manipulate the light microscope to recognize the histology of the healthy and diseased dental tissues and draw them. | * Practical sessions. * Use of draw book. * Radiographic case. * Presentation in oral radiology. | * Practical and OSPE exam. * Assessment of practical logbook by the use rubric. * Assessment of the radiographic case presentation by the use rubric. |

**Suggested Guidelines for Learning Outcome Verb, Assessment, and Teaching**

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| **NQF Learning Domains** | **Suggested Verbs** |
| **Knowledge** | list, name, record, define, label, outline, state, describe, recall, memorize, reproduce, recognize, record, tell, write |
| **Cognitive Skills** | estimate, explain, summarize, write, compare, contrast, diagram, subdivide, differentiate, criticize, calculate, analyze, compose, develop, create, prepare, reconstruct, reorganize, summarize, explain, predict, justify, rate, evaluate, plan, design, measure, judge, justify, interpret, appraise |
| **Interpersonal Skills & Responsibility** | demonstrate, judge, choose, illustrate, modify, show, use, appraise, evaluate, justify, analyze, question, and write |
| **Communication, Information**  **Technology, Numerical** | demonstrate, calculate, illustrate, interpret, research, question, operate, appraise, evaluate, assess, and criticize |
| **Psychomotor** | demonstrate, show, illustrate, perform, dramatize, employ, manipulate, operate, prepare, produce, draw, diagram, examine, construct, assemble, experiment, and reconstruct |

Suggested ***verbs not to use*** when writing measurable and assessable learning outcomes are as follows:

Consider Maximize Continue Review Ensure Enlarge Understand

Maintain Reflect Examine Strengthen Explore Encourage Deepen

Some of these verbs can be used if tied to specific actions or quantification.

**Suggested assessment methods and teaching strategies are:**

According to research and best practices, multiple and continuous assessment methods are required to verify student learning. Current trends incorporate a wide range of rubric assessment tools; including web-based student performance systems that apply rubrics, benchmarks, KPIs, and analysis. Rubrics are especially helpful for qualitative evaluation. Differentiated assessment strategies include: exams, portfolios, long and short essays, log books, analytical reports, individual and group presentations, posters, journals, case studies, lab manuals, video analysis, group reports, lab reports, debates, speeches, learning logs, peer evaluations, self-evaluations, videos, graphs, dramatic performances, tables, demonstrations, graphic organizers, discussion forums, interviews, learning contracts, antidotal notes, artwork, KWL charts, and concept mapping.

Differentiated teaching strategies should be selected to align with the curriculum taught, the needs of students, and the intended learning outcomes. Teaching methods include: lecture, debate, small group work, whole group and small group discussion, research activities, lab demonstrations, projects, debates, role playing, case studies, guest speakers, memorization, humor, individual presentation, brainstorming, and a wide variety of hands-on student learning activities.

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| 5. Schedule of Assessment Tasks for Students During the Semester | | | |
|  | Assessment task (e.g. essay, test, group project, examination, speech, oral presentation, etc.) | Week Due | Proportion of Total Assessment |
| 1 | Quiz. | 5th week | 5% |
| 3 | Mid- term exam. | Midterm  10th week | 15% |
| 4 | Mid-term OSPE exam | Midterm  10th week | 10% |
|  | Presentations. | 16 &17th Week | 10% |
| 5 | Drawing book and requirements | Weekly during practical session | 10% |
| 6 | Final practical and OSPE exam. | End of semester  19th week | 20% |
| 7 | Final written exam. | End of semester  19th week | 30% |
|  | Total |  | 100% |

**D. Student Academic Counseling and Support**

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| 1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week) 2. Faculty and teaching staff of this course are available at least 4 hrs. /week (according to allocated office hours) for individual student consultation and academic advice. All contact information for faculty and teaching staff are written in the course outline. |

**E. Learning Resources**

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| **1.0. List Required Textbooks:**  Learning outcomes for each lecture are given to students in the form of handout.  1.1. Antonio N: Ten Cate Oral Histology, Development, Structure and Function, 8th ed. Mosby Elsever, St Louis, **(2013).**  1.2. Berkovitz B, Maxham J, and Holland G: Oral Anatomy, Histology and Embryology, 4th ed. Mosby Elsever, **(2009).**  1.3. Maji j: Manual of Oral Histology and Oral Pathology, 10th ed. CBS Ltd New Delhi, **(2015).**  1.4. Neville B, Damn D, Allen C, and Bouquot J: Oral and Maxillofacial Pathology, 3rd ed. Elsever, Saunders Co, Philadelphia, **(2009).**  1.5. Regezi J, Sciubba J, and Jordan R: Oral Pathology: Clinical Pathologic Correlation, 4th ed. Elsever,Saunders Co, Philadelphia, **(2008).**  1.6. Sook-Bin W: Oral Pathology (a Comprehensive Atlas and Text), 1st ed, Elsever, Saunders Co, Philadelphia, **(2012).**  1.7. White S C and Pharoah M J: Oral Radiology Principles and interpretation 7th ed. Mosby Elsever, St Louis, **(2014).**  1.8. Richard J L and Howard F J: Oral microbiology at a glance, 1st ed. Wiley Blackwell, West Sussex United Kingdom, **(2010).**  1.10. Richard JL, George NH, and Howard FJ: Oral microbiology and immunology, 2nd ed. ASM Press, **(2014).** |
| **2.0. Other learning material:**  2.1. Computer-based programs/CD, professional standards or regulations and software.  2.2. Lectures specifications showing learning outcomes & key words of each lecture are given to students and electronically uploaded to My UQUDENT website.  2.2. Transmitted light microscopes & video microscope are used in practical sessions to demonstrate histological and histopathological features of oral tissues using prepared microscopic slides. |

**F. Facilities Required**

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| Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access etc.) |
| 1. **Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)**  The accommodation required for the teaching of this course includes the following:   * 1. Classrooms: supplied with 30 seats, data show for computer projection, large screens, Screen pointers & wireless network is also available.   1.2 Laboratories: supplied with 30 seats and wide study benches, microscopic stained slides for specimens of normal and pathological oral tissues. Data show, large screens, good lighting sources and other equipment needed for training of students on such skill as transmitted light microscopes and video microscope & wireless network is also available. |
| 2. **Computing resources (AV, data show, Smart Board, software, etc.)**  Teaching materials, assessment schedule, student's marks and any special notes to students are uploaded on the My UQUDENT website. |
| 3. **Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)**  3.1. Full equipped histopathology lab is required for histopathological processing and preparation of tissue samples.  3.2. A complete set of microscopic slides for all studied histological tissue sections and histopathological lesions are required for every one or two students for better identification of these tissues. |

**G Course Evaluation and Improvement Processes**

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| 1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching  Feedback on effectiveness of teaching is provided by every student after each session, electronically on the website of the college. |
| 2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor  Course evaluation sheets are distributed to students at the end of the course to debrief points of weakness, points of strengths to be considered in the action plan for continuous improvement. |
| 3 Processes for Improvement of Teaching  Taking prompt actions to remedy points of weakness. Reinforcement of points of strengths is also considered. |
| 4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)  Double checking of the students answers by two evaluators. Periodic reviews for performance assessment tools like rubrics & OSPE. |
| 5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.  Recruitment of external peer reviews to review teaching material for students and to suggest any improvements. |

**Course Instructors:**

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| **Discipline** | **Instructors name** | **Official E.Mail** | **Mobile** |
| Oral Biology | Dr. Hoda Fansa | [hafansa@uqu.edu.sa](mailto:hafansa@uqu.edu.sa) | +966 568900198 |
| Dr. Sherif Hassan | [sshali@uqu.edu.sa](mailto:sshali@uqu.edu.sa) | +966 538849141 |
| Dr. zainab Abulwafa | [zabouelwafa@uqu.edu.sa](mailto:zabouelwafa@uqu.edu.sa) | +966 560281980 |
| Oral Pathology | Prof. Amal Eldeeb | [amdeeb@uqu.edu.sa](mailto:amdeeb@uqu.edu.sa) | +966 567248700 |
| Dr. Rania Hanafy | [rhsais@uqu.edu.sa](mailto:rhsais@uqu.edu.sa) | +966 595841905 |
| Microbiology | Prof. Ibtesam Afifi | [msqahtani@uqu.edu.sa](mailto:msqahtani@uqu.edu.sa) | +966 565666945 |
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| Radiology | Prof. Mohamed Khalid | [amyoussef@uqu.edu.sa](mailto:amyoussef@uqu.edu.sa) | +966 564459759 |
| Dr. Mahmoud Gamal Eldin | mahmoudgamaleldin@hotmail.com | +966 554604915 |

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**Date Report Completed:** 20/9/2018

**Received by:** Dr. Mashael AlQahtani

**Head of Department of Basic & Clinical Oral Sciences**

**Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**