

**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 Specifications**

**(CS)**

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| **Course Name** | Basic Research Methodology | |
| **Course Code** | 190251502 | |
| **Academic Level** | 5th Level | |
| **Semester** | 1st | |
| **Study Plan No** | 33 | |
| **Department** | **Preventive Dentistry** | |
| **Division** | **Community Dentistry** | |
| **Academic Year** | 2018-2019 AD – 1439 -1440 AH | |
| **Contact hours** | Theoretical | 2 / week |
| Practical | Non / week |
| Clinical | Non / week |
| **Total Contact Hrs** | 2 / week | |
| **Total Credit Hrs** | 2 | |

UQU-DENT:F0401-01/02

**Course Specifications**

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| **Institution:** Umm Al Qura University **Date of Report**: 27 march,2018 |
| **College/Department:** College of Dentistry/Department of preventive dentistry |

**A. Course Identification and General Information**

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| **1.** **Course title and code:** Basic Research Methodology, Code: (190251502). |
| **2. Credit hours:** 2 Credits. |
| **3. Program(s) in which the course is offered:**  Bachelor Degree of Dental Medicine and Surgery (B.D.S.). |
| **4. Name of faculty member responsible for the course:** Dr. Wahdan Elkwatehy, assistant professor of dental public health and preventive dentistry. |
| **5. Level/year at which this course is offered:**  Fifth year (first semester). |
| **6. Pre-requisites for this course:** Successful completion of the 4th year courses. |
| **7. Co-requisites for this course :**  Nutrition, Removable Prosthodontics, Comprehensive Care Clinic I, Pediatric Dentistry & Oral Surgery I. |
| **8. Location if not on main campus:** This course is offered in the main campus at Al-Abedia Area. |
| **9. Mode of Instruction :**  90 %  Yes  a. Traditional classroom What percentage?  b. Blended (traditional and online) What percentage?  10 %  Yes  c. e-learning What percentage?  d. Correspondence What percentage?  e. Other What percentage?  Comments:  Traditional Classroom: lectures used for teaching the theoretical materials of the course and group discussion.  e-learning: the students collect data about different dental topics and trained for writing proposal, literature review and/or thesis. |

**B Objectives**

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| **1. What is the main purpose for this course?**  The aim of this course is to provide training in basic study design to encourage reading scientific literature. The course provides students with the necessary skills for successfully performing a research proposal, writing a literature review and thesis. The course provides students with the necessary information about ethical consideration in scientific research. The course provides students with the necessary skills for successfully performing a research project in the next year. The principles of research and the requirements of dental research will be covered and evaluation of scientific literature in terms of study design, sampling, and data analysis methods will be based on current dental health problems in our community. |
| **2. Plans for Developing and Improving the Course:**  2.1. More focusing on electronic learning through using King Abdullah Digital Library.  2.2. Implementing interactive lectures & increasing the time for discussion with students.  2.3. Implementing assessment methods that depends on student self directed learning.  2.4. Using rubrics as objective assessment tools for evaluating students' assignments and presentations.  2.5. Using a variety of assessment methods (student portfolio, essay, oral presentation, student self evaluation or group work). |

**C. Course Description:**

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| No | List of Topics | No. of  Weeks | Contact Hours |
| 1 | Introduction to basic research methodology | 1 | 2 |
| 2 | Types of research studies | 3 | 6 |
| 3 | Sampling ( Types, sampling methods, errors and bias) | 2 | 4 |
| 4 | Designing a protocol for scientific research | 3 | 6 |
| 5 | How to write an article, publishing guidelines | 2 | 4 |
| 6 | Ethical considerations in dental research | 2 | 4 |
| 7 | Quality of research (critical analysis; evidence-based) | 2 | 4 |
| Total | | 15 | 30 |

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| 2. Course components (total contact hours and credits per semester): | | | | | | |
|  | Lecture | Tutorial | Laboratory | Practical | Other: | Total |
| Contact  Hours | 30 |  | - | - | - | 30 |
| Credit | 2 |  | - | - | - | 2 |

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| **3. Additional private study/learning hours expected for students per week:** 2 hrs per week**.** |

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| **4. 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 the different types of research and principles of best evidence. | 1- lectures  2- Assignment and presentation | 1- Quiz, midterm and final exam.  2- Assignment assessment using rubric. |
| 1.2 | Describe sampling methods, error types, bias and ethical considerations in research methodology. |
| **2.0** | **Cognitive Skills** | | |
| 2.1 | Analyse the strengths and weaknesses of different researches. @ | 1- lectures  2- Assignment and presentation  3-Inquiry Based Learning. | 1- Quiz, midterm and final exam.  2- Assignment assessment using rubric. |
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| **3.0** | **Interpersonal Skills & Responsibility** | | |
| 3.1 | Demonstrate proper preparation of assignments and presentation skills. | 1. Student's group presentation. | 1. Group presentation assessment using rubric. |
| **4.0** | **Communication, Information Technology, Numerical skills:** | | |
| 4.1 | Gather authorized and reliable medical information from medical web sites. Use electronic resources in proper way. | 1-Assignment and presentation | 1. Assignment and group presentation assessment using rubric. |
| **5.0** | **Psychomotor:** Non applicable | | |

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

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| **NQF Learning Domains** | **Suggested Verbs** |
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| **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 |

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| 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. | | | |
| **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. 1 | Quiz | 5th week | 10% |
| 1. 3 | Assignments and Presentation | During the course | 20% |
| 1. 4 | Mid Term Exam | 9th week | 20% |
| 1. 5 | Final Written Exam | At the end of the course | 50% |
| Total | | | 100% |

**D. Student Academic Counseling and Support**

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| **1. Availability of faculty and teaching staff for individual student consultations and academic advice.**  Staff members of this course are available for individual student counseling and advice. An average of 2hrs/week is allocated for each staff member teaching the course.  The schedule is arranged in accordance to the faculty time table and is announced to all students & inserted in the course syllabus. |

**E. Learning Resources**

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| **1. List Required Textbooks**  1.1. Webb P, Bain C, Piroizzo S. Essential Epidemiology. Cambridge University Press; 2006.  1.2. Rajasekar S, River, Pearson Philominathan P, Chinnathambi V. Research Methodology arxiv.org/pdf/physics/0601009. Jan., 2006.  1.3. Creswell JW. Educational Research: Planning, conducting and evaluating quantitative and qualitative research 3rd ed. Upper Saddle., 2011. 1.4. Fidelis I.U. Fundamentals of research methodology and data collection. LAP Lambert Academic Publishing; 2016. [www.researchgate.net/publication/303381524](http://www.researchgate.net/publication/303381524) |
| **2. List Essential References Materials (Journals, Reports, etc.)**  2.1. FitzGerald K, Kerins C, McElvaney R: The Critical Incident Technique: A Useful Tool for Conducting Qualitative Research. Journal of Dental Education. 72: 299-304, 2008.  2.2. Hayes C. Evidence based dentistry-design architecture. Dental Clinics of North America, 46: Jan., 2002. |
| **3. List Recommended Textbooks and Reference Material (Journals, Reports, etc)**  3.1. Frankel RM, Devers KJ. Study design in qualitative research-1: Developing questions and assessing resource needs. Education for Health 2000, 13:251-261.  3.2. Sikri V, Sikri P. Community dentistry 1st ed.CBS, 2007. |
| **4. List Electronic Materials (eg. Web Sites, Social Media, Blackboard, etc.)**  4.1. Hans Weigand, Univ. of Tilburg; Research Methods and Methodology. 2006. Available at: "<http://www.siks.nl/RM%20M%20nov%202006/RMintroHans%20Weigand.PDF>". Accessed Dec. 22, 2012.  4.2. Colin Neville, Bradford University & School of Management; An introduction to research & research methods. 2007. Available at: "<http://www.brad.ac.uk/management/media/management/els/Introduction-to-Research-and-Research-Methods.pdf>". Accessed Jan. 2, 2013.  4.3. Rajasekar S., Philominathan P., Chinnathambi V.; Research methodology; 2013. Available at:  "<http://arxiv.org/pdf/physics/0601009.pdf>". Accessed Jan.7, 2013. |

**F. Facilities Required**

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| **1. Accommodation :**  Each teaching classroom in the faculty is large enough to accommodate 60 students at one time & it includes enough number of comfortable seats arranged in rows with spaces between them. These classrooms are supplied with audiovisual equipments, data show, a large screen, screen pointers & other equipments needed for the PowerPoint presentation of lectures. |

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| **2. Computing resources (AV, data show, Smart Board, software, etc.)**  All students have the opportunity to use computer with internet access in acomfortable place. This will enable the students to search for the learning issues of theSDL tutorials. |
| **3. Other resources** :   * Study areas for students to revise their lessons. |

**G Course Evaluation and Improvement Processes**

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| **1- Strategies for Obtaining Student Feedback on Effectiveness of teaching:**  1.1. A course evaluation questionnaire is designed to assess the effectiveness of the course regarding objectives, teaching facilities, instructor, assessment process and resources. It is distributed to all the students at the end of the course, data is analysed, interpreted and discussed by the course director or committee in order to issue an improvement plan for any difficulties facing the students.  1.2. Focus group discussion with the students to validate the questionnaire results. |
| **2 - Other Strategies for Evaluation of Teaching by the Program/Department Instructor:**  2.1. A course evaluation questionnaire is designed to assess the effectiveness of the course. It is distributed to instructors who participated in teaching the course at the end of the semester; data is analysed, interpreted and discussed by the course director or committee.  2.2. An annual course report is compiled by the course director or committee in light of the results of students' performance as well the results of the course evaluation questionnaire by students. |
| **3 - Processes for Improvement of Teaching:**  3.1. Self and student assessment of the teaching methods.  3.2. Review of recommended teaching strategies. |
| **4. Processes for Verifying Standards of Student Achievement:**  4.1. Double checking of the students answers by two ratters or evaluators.  4.2. External examiners recruitment is helpful for verifying students' performance. |

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| **5-  Description of the  planning arrangements for periodically reviewing course effectiveness and planning for improvement:**  The course is revised annually after its delivery in light of the results of students' performance (students' grades) and the results of the course evaluation questionnaire by both students and teaching staff. The course director or committee discusses these issues and put an improvement plan for each spotted problem. They revise the course content and intended learning objectives. Any changes in objectives, teaching strategies or assessment methods should be documented in the course specification of the next year. Major changes should not be considered except after being approved by the curriculum committee. |

**Faculty or Teaching Staff: Signature:**

Dr/ Wahdan Mohammad Abdulghany Elkwatehy **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Dr/ Rabab Ibrahim Salama **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Dr/ Omair Mohammed Bukhari **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Date Report Completed:** 29 march, 2018.

**Received by: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Department Head**

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