

Doctor of Philosophy in Dental Materials Science

Department: Biomaterials

Program Aims: The teaching program is designed to analyze problems related to material behavior and formulate a test hypothesis and establish the knowledge of recent technologies in material processing. The program would allow graduates to be acquainted with different and latest experimental techniques used in research conduction and develop original, independent and critical thinking with ability to develop theoretical concepts research. The program would also allow graduates to order, obtain and interpret different data of research techniques that serve assessment of materials and understand, evaluate and criticize the currently used advanced materials in the dental field. The teaching program is designed to suggest solutions for problems associated with dental materials performance in service. The program utilizes the recent, optimum and advanced fabrication technologies employed in materials production and use.

a. Compulsory courses

Code	Title	Week	Didactic	Practical	Contact	Self Study	Work Load	SWL	Credit Hours	Credit Points
Semester I										
DBM601	Material Science and Engineering I	15	2	0	2	4	6	90	2	3
DBM602	Biomaterial-Tissue Interface and Biocompatibility	15	2	0	2	4	6	90	2	3
DBM603	Seminars on Dental Materials I	15	2	0	2	4	6	90	2	3
DBM604	Emerging Technologies in Dental Materials Fabrication	15	2	0	2	4	6	90	2	3

Code	Title	Week	Didactic	Practical	Contact	Self Study	Work Load	SWL	Credit Hours	Credit Points
Semester II										
DBM701	Seminars on Dental Materials II	15	2	0	2	4	6	90	2	3
DBM702	Biomimetic and Tissue Engineering	15	2	0	2	4	6	90	2	3
DBM703	Dental Biomechanics I	15	2	0	2	4	6	90	2	3
DBM704	Stress Analysis I	15	2	0	2	4	6	90	2	3
DBM705	Material Science and Engineering II	15	2	0	2	4	6	90	2	3

Code	Title	Week	Didactic	Practical	Contact	Self Study	Work Load	SWL	Credit Hours	Credit Points
Semester III										
DBM801	Seminars on Current Topics I	15	2	0	2	4	6	90	2	3
DBM802	Advanced Biomaterials I	15	2	0	2	4	6	90	2	3
DBM803	Dental Biomechanics II	15	2	0	2	4	6	90	2	3
DBM804	Stress Analysis II	15	2	0	2	4	6	90	2	3

Code	Title	Week	Didactic	Practical	Contact	Self Study	Work Load	SWL	Credit Hours	Credit Points
Semester IV										
DBM901	Seminars on Current Topics II	15	2	0	2	4	6	90	2	3
DBM902	Advanced Biomaterials II	15	2	0	2	4	6	90	2	3
DBM903	Literature Seminars on Dental Materials	15	2	0	2	4	6	90	2	3

b. Elective courses

Students should study 5 elective courses to complete 120 credit points. Each credit point is equivalent to 28 workload hours.

Students' assessment:

Methods of assessments:
1. Continuous assessment of students all through the courses via evaluation of seminars and written exams (Mid term exam, Final exam Exit exam)
Problem solving and Oral Exam
Seminars and Presentations and Oral exam.
Seminars, Presentations and Oral exam.