REGULATIONS FOR THE DEGREE OF MASTER OF SCIENCE IN DENTAL MATERIALS SCIENCE (MSc[DMS])

(See also General Regulations)

Any publication based on work approved for a higher degree should contain a reference to the effect that the work was submitted to the University of Hong Kong for the award of the degree.

The degree of Master of Science in Dental Materials Science (MSc[DMS]) is a postgraduate degree awarded following the satisfactory completion of a prescribed course of study and research related to the use of materials in dental practice.

Admission requirements

D114 To be eligible for admission to the curriculum for the degree of Master of Science in Dental Materials Science, a candidate:

(a) shall comply with the General Regulations;

(b) shall hold

(i) the degree of Bachelor of Dental Surgery or Bachelor of Science of this University; or

(ii) a degree or other qualification of equivalent first-degree standard from another university or comparable institution accepted for this purpose; and

(c) satisfy the examiners in a qualifying examination if required.

D115 A candidate who does not hold a Bachelor's degree of this University or a degree or other qualification of equivalent standard may in exceptional circumstances be permitted to register if the candidate can demonstrate adequate preparation for studies at this level and satisfies the examiners in a qualifying examination.

Qualifying examination

D116(a) A qualifying examination may be set to test a candidate's formal academic ability or his or her ability to complete the prescribed courses of study. It shall consist of one or more written papers or the equivalent and may include any or all of a project report, practical examination or oral examination.

(b) A candidate who is required to satisfy the examiners in a qualifying examination shall not be permitted to register until he has satisfied the examiners in the examination.

Award of degree

D117 To be eligible for the award of the degree of Master of Science in Dental Materials Science, a candidate shall

(a) comply with the General Regulations; and

(b) complete the curriculum and satisfy the examiners in accordance with the regulations set out below.

Curriculum

D118 The curriculum shall consist of a minimum of 400 hours of prescribed work normally extending over not less one academic year of full-time study or not less than two academic years of part-time study and shall include all examinations and the submission of a dissertation or project report portfolio.

D119 To complete the curriculum a candidate shall

(a) follow instruction in the courses prescribed and complete satisfactorily all prescribed coursework requirements, including practical work;
(b) satisfy the examiners in all examinations as may be required; and
(c) complete and submit a dissertation or project report portfolio which satisfies the examiners.

Dissertation/Project report portfolio

D120 The title of the dissertation or of project reports shall be submitted for approval not later than April 30 in the final academic year of study, and the dissertation or project report portfolio shall be submitted not later than September 1 in the same year; the candidate shall submit a statement that the dissertation or project report represents his own work undertaken after registration as a candidate for the degree. The examiners may prescribe an oral examination on the subject of the dissertation or project report.

Examinations

D121 Any assessment of the candidate's coursework during the course of study, including written assignments, shall be taken into account in determining the candidate's overall result.

D122 Examinations may take the form of written papers, oral and practical examinations, assessments of coursework, or a combination of these methods and, in the case of part-time study, may be held in each year of study.

D123 A candidate who has failed to satisfy the examiners in any part of the examinations may be permitted to present himself again for examination at a time to be determined by the Board of Examiners, with or without repeating any part of the curriculum; or he may be recommended for discontinuation of studies under the provisions of General Regulation Gl2.

D124 A candidate who has presented a dissertation or project report portfolio which has failed to satisfy the examiners may be permitted to revise and re-present the dissertation or project report portfoliowithin a period to be determined by the Board of Examiners; or he may be recommended for discontinuation of studies under the provisions of General Regulation Gl2.

D125 Failure to take any examination as scheduled normally shall result in automatic course failure. A candidate who is unable, through his or her illness, to be present at an examination may apply in writing within two weeks of the examination for permission to be examined at some other time to be determined by the Board of Examiners.

Examination results

D126 At the conclusion of the examinations, including examination of dissertations or project report portfolios, the names of the successful candidates shall be published in alphabetical order. A candidate who has shown exceptional merit may be awarded a mark of distinction, and this mark shall be recorded in the candidate's degree diploma.

SYLLABUSES FOR THE DEGREE OF MASTER OF SCIENCE IN DENTAL MATERIALS SCIENCE

DENT6019 Master of Science in Dental Materials Science

A course of advanced study designed to develop a broad knowledge of the principles underlying the mechanical, physical, and chemical properties of biomaterials; structure at molecular, microscopic, and macroscopic levels; mechanisms of reaction and mechanical failure; and behaviour in all relevant aspects of each class of material used in dentistry, in relation to their function, application handling, and service.

Course Syllabus:
The course includes the following:

- impression materials;
- model and waxes;
- cements and lining materials;
- dental amalgams;
- porcelain;
- metal-ceramic systems;
- abrasives and polishing materials;
- biomaterials;
- investment materials;
- dental resin-based restoratives;
- dental metals and alloys;
- acrylic and other polymers;
- implant materials;
- solders and fluxes;
- instruments, tools, and other equipment;

and other relevant materials. It will also include, where appropriate, the processes used in fabrication and finishing, interactions in the biological context of usage (e.g., toxic and other hazards), and the recognition of faults and their causation.

Emphasis is placed on the explicability of materials-related phenomena from structure-property relationships, in the context of clinical teaching, on the universality and applicability of the ideas to materials in general (as opposed to products), and on the means by which dental practitioners may make knowledge-based rational decisions concerning treatment.

The theoretical course is reinforced by practical experience of the design, execution, interpretation, and reporting of experimental investigation of aspects of properties or behaviour of selected materials, thereby encouraging deeper exploration of general and particular principles.

On completion of the course, the student should have a good knowledge of all relevant concepts and be competent in justifying selection criteria and manipulation instructions for all classes of materials relevant to the practice of dentistry. The student will also have gained competence in a range of laboratory techniques, experimental principles, literature searching, and scientific writing.