511-603 M.D.Sc.-Oral Anatomy, Histology & Emb.

Credit Points:	100.000
Level:	Research Higher Degree
Dates & Locations:	This subject is not offered in 2008.
Time Commitment:	Total Time Commitment: Not available
Prerequisites:	None
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
Core Participation Requirements:	For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Student Support and Engagement Policy, academic requirements for this subject are articulated in the Subject Overview, Learning Outcomes, Assessment and Generic Skills sections of this entry. It is University policy to take all reasonable steps to minimise the impact of disability upon academic study, and reasonable adjustments will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact on meeting the requirements of this subject are encouraged to discuss this matter with a Faculty Student Adviser and Student Equity and Disability Support: http://services.unimelb.edu.au/disability
Subject Overview:	The MDSc in Oral Anatomy, Oral Histology and Oral Embryology aims to promote the development of scholastic and research skills in any area related to the organs and tissues of the stomatognathic apparatus. The program is intended to provide advanced educational opportunities for research in topics relating to the development, structure, function and growth of organs within the craniofacial system. Students admitted to the course should have a serious commitment to research and scientific publishing in the short term and long term may wish to pursue an academic career. The MDSc in Oral Anatomy, Oral Histology and Oral Embryology takes two years full time or four years part time to complete. **Research topics** All the hard tissues of the vertebrate body are represented in the jaws, and the laboratory facilities at the School of Dental Science have been specifically developed for the preparation and study of these tissues. Facilities available include a well equipped histology laboratory, numerous specialised optical microscopes, access to electron microscopes and expertise in computer-based laboratory for image processing, image analysis and histomorphometry. Additionally, two morphometrics laboratories are available for non-contact 3D measurement of human facial form. Current areas of interest include: (i) corroboration of identity from human facial shape and form (ii) Analysis of changes to facial shape with age and after orthodontic or surgical treatment (iii) the ageing of human bone tissue and determination of bone quality and quantity throughout life (iv) foetal osteology and early dental development (v) computer modelling of facial growth in children (vi) a hierarchical approach to bone structure from organ to tissue level. This study utilized whole organ CT data from cadavers down to micro-CT data gained by using synchrotron-based micro-CT at labs in the USA and Japan. (vii) the relationship between osteonecrosis of the jaws and bisphosphonate therapies. The research topic selected will be chosen after discussions and agreement between the candidate and the convenor of the program. Where necessary, additional supervisors will be recruited as research advisers. Whilst the program inevitably has a dental bias, many research topics in closely related fields within skeletal biology can be considered.

	Progress meetings between student and research adviser/supervisor on an individual basis will take place at frequent intervals. Candidates are expected to produce a substantial manuscript or progress report by the end of their first year. Although students are not formally enrolled in the subject 511-731 Research Design 1 and 511-732 Research Design 2, they are required to attend classes and be assessed in that subject. Emphasis in the first year will be placed on the student's abilities to search relevant literature, critically appraise such literature, learn some standard laboratory techniques and prepare and defend a proposal for their own chosen research topic. Each of these skills will be assessed by essays, oral presentations and practical tests and an overall pass will be required. Any ethical clearances needed for permission to conduct research on animals or human subjects must to be obtained by the end of this first year at the latest. The second year continues to build on research begun in the second semester of first year. Students will be expected to subject their experimental work, their reviews of the literature and any other assignments to the scrutiny of their peers and their supervisor during regular oral presentations and an overall pass on these tasks will be required. The second semester of this year will concentrate on the development of writing skills culminating in the submission of a written thesis.
Assessment:	A written thesis (of approximately 40,000 words) submitted by the candidate will be assessed by two or more examiners. Students will be required to present their results formally to the School of Dental Science in the Research Seminar Program and may be also examined by written assignment in the coursework undertaken. Examination requires the preparation and submission of a typewritten, bound thesis to the University which will then be sent to two external examiners for assessment. Pass requirements for each subject are as described above.
Prescribed Texts:	None
Breadth Options:	This subject is not available as a breadth subject.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	At completion of the course, graduates should be able to: (i) access information required for research (ii) critically evaluate data and concepts (iii) design and conduct a realistic research program appropriate to qualifications sought (iv) appraise the outcome of their studies in a broader context (v) be capable of lucid oral presentation of their research findings (vi) prepare a dissertation for examination.