

Education Supplement

Postgraduate orthodontic training programs in Australia

The following information has been compiled by the *Australian Orthodontic Journal* with the assistance of the heads of the various orthodontic departments in Australia. It follows a recent assessment by the Australian Society of Orthodontists of the courses provided by the faculties of dentistry located in Adelaide, Brisbane, Melbourne, Perth and Sydney.

Its purpose is to make prospective students aware of the approach to teaching, and qualifications and experience of staff, and the requirements in time and money required of the students. The information published is subject to change from year to year, and prospective applicants are advised to enquire further should they consider applying for admission.

Synopses of courses

Adelaide: Doctor of Clinical Dentistry (Orthodontics), University of Adelaide

Year 1:

Content: The program is designed to provide the student with a broad knowledge of subjects directly related to orthodontic practice. A sound understanding of the aetiology, diagnosis, prognosis and treatment of abnormal growth and the development of the jaws, abnormal relations of the dental arches and all forms of tooth irregularities is essential.

Course instruction via conventional and problem-based learning consists of guided reading, seminars and tutorials on advanced Orthodontics, along with closely supervised clinical and laboratory practice. The supervised clinic occupies five three-hour fixed appliance sessions per week over the entire period of the course. Four sessions are devoted to the Begg and Tip-Edge appliances and a thorough knowledge with a high degree of proficiency is expected. The fifth fixed-appliance session aims to provide a broad working knowledge of Edgewise appliances, particularly Straight-Wire. A sixth session involves treatment of mixed dentition cases and the use of functional appliances. A continual updating of clinical records of performed treatments is required of

the student. Other clinical sessions will be rostered for cleft palate and orthognathic surgery experience.

Two essays of approximately 10,000 words are assigned and due for assessment by August. First-year students are expected to actively participate in second-year journal club presentations as rostered each week and must present all of their allocated core patients for diagnosis and treatment planning tutorials, which are programmed five times during each week.

Year 2:

Content: Continuation from Year 1, with scheduled seminar sessions designed to explore a wide range of orthodontic and related topics through a problem-based approach focussing upon the literature and presentation of current and previously treated patient cases. The emphasis is placed upon contextual learning through targeted reading and discussion rather than didactic teaching *per se*. Topic-based seminars are programmed through the year and interfaced with the five tutorial sessions each week. The essays from first year are formally presented to the program group and are bound for assessment at the end of the second year. Clinical management of the core patients allocated in first year is continued and a further group of patients (designated hospital patients) is assigned for diagnosis, treatment planning and treatment. Rosters to cleft palate and orthognathic clinics continue.

Year 3:

Content: The intent of the third year is that it should be an opportunity to consolidate while updating orthodontic knowledge and skills. Participation in the first and second year seminars is required each week, but a greater emphasis is now placed upon clinical experience, with another group of patients being added to the student's case load of core patients and hospital patients accumulated in the preceding two years of the course. In addition, two sessions per week are directed toward teaching fourth year and fifth year undergraduate students and time is made available to continue diagnosis and treatment planning for patients, advance reading in orthodontics and to prepare journal articles for publication based upon the student's research project.

Research component

The research component is conducted over the first and second years of the program, with thesis submission required by the commencement of the third year. This is to encourage completion and examination of the thesis and the production of journal publications before graduation.

The research component represents 30 per cent of the course requirement and topics have ranged through clinical and biological projects.

Applications

In the first instance, all applications and correspondence should be directed to:

Professor Wayne J. Sampson
Orthodontic Unit
Faculty of Health Sciences
Dental School
The University of Adelaide
South Australia, 5005
Telephone: +61 8 8303 3293
Facsimile: +61 8 8303 3444
Email: wayne.sampson@adelaide.edu.au

**Brisbane: Master of Dental Science
(Orthodontics), University of Queensland****Introduction**

The Masters course in Orthodontics at the University of Queensland is a three-year program. The program is accredited by the Australian Dental Council and by the Australian Society of Orthodontists. It covers a wide variety of subjects and is designed to graduate a specialist orthodontist with a broad scientific background, that provides the critical capacity to remain abreast of new information and clinical applications.

The School of Dentistry is one of the departments in the Faculty of Health Sciences, and maintains a close relationship with the Brisbane Dental Hospital and the Children's Oral Health Service, which are state government facilities.

Course outline and objectives

At the end of the program each candidate should:

- understand the embryology, growth and development of the craniofacial regions
- have a detailed knowledge of dental development and normal occlusion
- be able to diagnose morphological and functional anomalies of the craniofacial regions
- be capable of formulating a treatment plan with a high probability of success
- be able to conduct orthodontic treatment to a high level of competence
- operate to the highest ethical standards
- understand the limits of orthodontic treatment
- be able to plan interdisciplinary treatment for cleft lip and palate patients
- understand the issues of need and demand in Orthodontics
- be conversant with the use of functional appliances
- appreciate the value of statistical and epidemiological methods in research
- be able to plan and execute independent research
- be capable of critical scientific evaluation of the literature
- appreciate the need for continuing education and personal development
- have detailed knowledge of radiographic and imaging techniques
- know the requirements of workplace health and safety legislation
- have a detailed knowledge of infection control protocols
- be able to implement proper informed-consent procedures
- have a basic understanding of practice management procedures

Interim examinations

Interim examinations are held after 12 months, at the end of the second semester of the course. Examiners include an internal examiner and external examiner. The external examiner will usually be independent of the course itself. The examination may address material covered up to that point in the course, including the material covered in specific subjects. The aim of the interim examination is to assess the progress of the candidate and to evaluate the candidate's ability to integrate information from different sources.

Assignments and seminars

The list of assignment and seminar topics is specifically designed to provide a focus for further guided study. Postgraduate candidates are usually highly motivated and are therefore encouraged to develop student-centred problem-based learning skills. All candidates should have two major objectives in their studies:

1. To develop study skills that will allow the individual to read, critically assess and extract useful information from the ever-expanding knowledge base. It is a cliché but worth repeating—we try to make students safe for ideas not make ideas safe for students.
2. To ensure that, when the course is successfully completed, each candidate has a body of knowledge and skills, that permit the practice of Orthodontics to acceptable contemporary standards.

Course schedule

	Subject	Credit points
Year 1:	Biometrics	12
	Craniofacial Anatomy, Development and Morphology	20
	Biological Force Systems and their application	20
	Orthodontics I	15
Year 2:	Orthodontics II	30
	Prevention, Need and Demand in Orthodontics	10
	Research Project	15
	Human Genetics	6
Year 3:	Orthodontics III	30
	Dental and Craniofacial Anomalies	15
	Research project (continued)	16

Research

Candidates should be aware of the need to develop a research project at an early date. The research protocol must be completed and approved by the end of the second semester. Protocols require that suitable statistical advice is obtained, and that all necessary consents are obtained including an ethics clearance.

Research topics must be developed with the agreement of the Course Director. Candidates will generally continue with thematic research under way in the discipline of Orthodontics.

Research supervision

The supervision of research higher degree candidates is part of a university's core business. Although it is a crucial facet of the transmission of ideas and

knowledge, research supervision is also an integral part of the extension of knowledge. We recognise that the work of postgraduate research students forms a vital part of an institution's overall research effort and that research students contribute importantly to the university's research profile.

Continuing Education courses

Continuing Education courses provide a rich set of opportunities for candidates to learn from acknowledged experts and specialists at no charge. It is intended that some of these courses will be formally included in the course content, providing excellent opportunities for interdisciplinary participation.

Support services for students

With a total student and staff population of over 30,000, the University community offers a comprehensive range of services, facilities and groups to assist students.

Professional health, counselling, chaplaincy, child care and other support services are available, and the Postgraduate Students Area offers advice and assistance specifically relating to the social, academic and practical areas of postgraduate life.

Many of the University's academic departments and research centres appoint staff members to coordinate postgraduate research activities and assist these students in academic matters.

The University of Queensland Union, controlled and owned by students, provides an extensive range of services, including cafes and refectories, a shopping arcade, theatre and gallery, dental surgery and optometrist, women's-equal-opportunity and legal advice and travel agencies.

Dental School Administration

Professor G J Seymour
Head of School
The University of Queensland
School of Dentistry

School Office:
The University of Queensland
School of Dentistry
Turbot Street
Brisbane Qld 4000
Telephone: +61 7 3365 8111
Facsimile: +61 7 3365 8199

Division of Orthodontics:
Academic Staff
Professor Terry Freer, Professor of Orthodontics;
and Course Director; Dr Chris Ho, Lecturer
in Orthodontics

Visiting Specialist Clinical Tutors
Dr Steve Atkin, Dr Brett Kerr,
Dr Patricia Medland, Dr Demetri Patrikios
Visiting Specialist Course Instructors
Dr William Medland, Dr Tony Weir, Dr Mark Lupton

Applications

In the first instance, all applications and correspondence should be directed to Professor G. J. Seymour, Head of School, or to Professor T. J. Freer, Professor of Orthodontics.

Email addresses are as follows:

Professor Seymour g.seymour@mailbox.uq.edu.au

Professor Freer t.freer@mailbox.uq.edu.au

Information is also available on the internet:

School of Dentistry www.uq.edu.au/dentistry/

Orthodontics www.uq.edu.au/~dnsprove/

Overseas applicants must complete an application for Admission as a Postgraduate Student (overseas applicant only) and forward it to:

The Coordinator, International Education Office
The University of Queensland Qld 4072
Australia

Melbourne: Master of Dental Science (Orthodontics), University of Melbourne

Course Structure (as students are formally enrolled within the University.)

Year 1

511-811: Common Core

511-815: Applied Orthodontic Clinical Science 1

511-816: Applied Orthodontic Clinical Science 2

Year 2

511-814: Applied Basic Science

511-609: Orthodontics

Year 3

511-615: Orthodontic Seminars/
Orthodontic Clinic

511-614: Minor Thesis and Publication

Course content

Year 1

511-811: Common Core

511-815: Applied Orthodontic Clinical Science 1

1. Introduction to Craniofacial Growth and the Factors Affecting It

2. Introduction to the Biology of Tooth Movement and Tissue Responses to Orthodontic Forces

3. Introduction to Orthodontic Biomechanics and Materials Science

4. Introduction to Orthodontic Mechanical Technique

5. Orthodontic Diagnosis and Treatment Planning

6. Orthodontic Clinical Practice

7. Research Planning and Application

8. Seminar: Orthodontic Practice: Background, Theory and Application

9. Seminar: Orthodontic Biomechanics and Tissue Response, Clinical Application

10. Literature Review: Classic, Current and Topical

511-816: Applied Orthodontic Clinical Science 2

1. Orthodontic Mechanical Technique

2. Cephalometrics in Theory and Practice

3. Applied Osteology and Myology of the Head and Neck

4. The History of Orthodontics

5. Applied Embryology and Anatomy of Cleft Lip and Palate and other Craniofacial Anomalies

6. The Anatomical and Physiological Basis for Orthognathic Surgery

7. Orthodontic Diagnosis and Treatment Planning

8. Orthodontic Clinical Practice

9. Seminar - Orthodontic Practice: Background, Theory and Application

10. Seminar - Orthodontic Biomechanics and Tissue Response, Clinical Application

11. Literature Review: Classic, Current and Topical

Year 2

511-814 Applied Basic Science

1. Epidemiology: General and Applied

2. The Physiology of Speech and Swallowing

3. Genetics: General and Applied

4. Orthodontic Aspects of Materials Science

5. Bone Physiology and Chemistry

6. Applied Statistics for Research

511-609 Orthodontics

1. Orthodontic Diagnosis and Treatment Planning

2. Orthodontic Clinical Practice

3. Seminar: Orthodontic Practice: Background, Theory and Application

4. Seminar: Orthodontic Biomechanics and Tissue Response, Clinical Application

5. Literature Review: Classic, Current and Topical

6. Research Planning and Application

YEAR 3

511-614: Minor Thesis and Publication

511-615: Orthodontic Seminars/
Orthodontic Clinic

1. Orthodontic Diagnosis and Treatment Planning
2. Orthodontic Clinical Practice
3. Seminar: Orthodontic Practice: Background, Theory and Application
4. Seminar: Orthodontic Biomechanics and Tissue Response, Clinical Application
5. Literature Review: Classic, Current and Topical

Applications

In the first instance, all applications and correspondence should be directed to:

Associate Professor Michael G. Woods
Orthodontic Unit
School of Dental Science
The University of Melbourne
711 Elizabeth Street
Melbourne Vic 3000
Telephone: +61 3 9341 0397
Facsimile: +61 3 9341 0339
Email: m.woods@dent.unimelb.edu.au

Perth: Master of Dental Science (Orthodontics), University of Western Australia

The Graduate program in Orthodontics commences in January and extends over thirty-six months, leading to an MDS degree in Orthodontics.

The aim of the program is to provide training that is strong in clinical orthodontics, theoretical bases and research methodology.

The clinical program

This is a highly structured program where sessions are individually timetabled throughout the three years. Seminars and lectures rotate on a three-year cycle. First and third year students attend all seminars together, except in the first three months of the first year when introductory didactic and preclinical practical instruction is performed.

A wide variety of clinical experience is assured through the broad range of cases treated. Through the exposure to patients from the very young to the adult, the student covers the entire spectrum of orthodontic problems.

Emphasis in the program is also placed on interdisciplinary management of complex cases, and is encouraged by close cooperation between students and the faculties in other disciplines. There are clinical sessions every day. Although the Edgewise technique predominates, significant numbers of patients are treated with functional appliances.

All instruction is performed at the Dental School, except for fortnightly craniofacial and cleft lip and palate clinics at Princess Margaret Hospital for Children and at monthly interdisciplinary meetings at the Branemark Centre. Students personally participate in combined surgical treatment of severe dentofacial deformities and management in the hospital-based programs at Royal Perth Hospital.

The program is so structured that the basic subjects necessary for background understanding will be taught in the first semester of the program. This will enable the student to commence clinical experience early in the first semester.

Coursework not directly related to the clinical speciality will be appropriately placed to ensure that optimum value is derived as the student matures clinically and intellectually.

The following subjects are covered in the program:

Semester 1

Anatomy
Oral Pathology
Biostatistics 90.753
Growth and Development 1
Biomechanics and Material Science
Orthodontic Diagnosis
Clinical Orthodontics 1
Interdisciplinary Clinic

Semester 2

Anatomy
Oral Pathology
Biostatistics 90.753
Growth and Development 1
Biomechanics and Material Science
Orthodontic Diagnosis
Clinical Orthodontics 1
Interdisciplinary Clinic

Semester 3

Genetics
Occlusion: Function and Dysfunction 1
Orthognathic Surgery 1
Adult Orthodontics and Periodontics
Literature Review
Clinical Orthodontics 3
Research Project
Interdisciplinary Clinic

Semester 4

Elective subject
Occlusion: Function and Dysfunction 2
Literature Review
Clinical Orthodontics
Craniofacial Anomalies
Research Project
Interdisciplinary Clinic

Semester 5

Clinical Orthodontics 3
Literature Review
Craniofacial Anomalies
Research project
Practice Management
Interdisciplinary Clinic

Semester 6

Clinical Orthodontics 3
Literature Review
Craniofacial Anomalies
Research Project
Practice Management
Interdisciplinary Clinic

The research project

A supervised research project will commence at the beginning of the second year. A project directly or indirectly related to Orthodontics will be undertaken. A written thesis and publishable article will be required from each student before graduation. Research in the fields of surgical orthodontics, dental materials, epidemiology of malocclusion and biology of tooth movement, is currently under way in the School.

Teaching experience

Second- and third-year students participate as teaching assistants in the undergraduate program.

Teaching staff

Mithran S. Goonewardene BDS(WAust)
MMedSC(Harvard) Cert.Orth(Harvard&Forsyth)
Senior Lecturer and Graduate Program Director
John M. Razza DDS(Baylor) Cert.Orth(UMKC)
Senior Lecturer
Carl Sim BDS(Singapore) MDSc(West.Aust)
Lecturer

Clinical instructors

Richard G. Cook BDS(W.Aust) MDSc(W.Aust)
Jeremy Hall BDS(London)DipOrth(RCS)
Peter Heagney BDS(W.Aust) MDSc(W.Aust)
Andrew Kalafatas BDS(W.Aust) MDSc(W.Aust)
Stevan Saicich BDS(W.Aust) MDSc(W.Aust)
John Stamatidis BDS(W.Aust) MDSc(W.Aust)
Francis Wong BDS(Manc.) MS(Manc)

Tuition

Fees are raised for overseas and local students. Australian/New Zealand residents may apply for scholarships through the University.

Applications

Prerequisites

A candidate for the degree of Master of Dental Science shall:

1. Hold a degree of Bachelor of Dental Science of this University or have been admitted to equivalent status.
2. Have at least two years experience in the practice of general dentistry.

Selection and application forms

Intake for the three-year program occurs every two years (the next intake commences January 2002). Application forms may be obtained from the administrative officer.

These should be submitted with copies of academic transcripts, the names of three referees and an autobiographical letter.

Applications for admission are considered in May 2001, after which short-listed applicants are requested to attend for interview. Applicants will be advised of the outcomes by August 2001.

Enrolment

Candidates for the degree shall enrol on a full-time basis. The course commences in mid-January of each year.

All candidates for the degree of Master of Dental Science must be registered with the Dental Board of Western Australia.

A dental graduate from universities other than in Australia may, upon application, be granted conditional registration for the duration of the program.

Assessment

First year: Written examinations: Anatomy, Biostatistics, Growth and Development, Clinical Orthodontics, Bone and Connective tissue. Clinical/Practical examinations: Oral Pathology/Oral Medicine.

Second year: Written examination: Clinical orthodontics. Clinical/Oral examination: two unsighted cases plus one hour examination

Final examination

It would be expected that one external examiner from interstate or overseas and one examiner from this state would be appointed. They would examine the student/s in the following manner:

1. Two three-hour written examination papers.
2. Presentation of 20 cases treated by the student/s during their course, demonstrating a wide variety of treatment problems.

3. A clinical diagnostic session with patients not seen previously by the student/s.
4. Oral examinations as required.
5. Defence of Thesis.

Note: Some examiners make specific requests regarding the format of the examination and wherever possible these are accommodated.

In the first instance, all applications and correspondence should be directed to:

Mr Mark Stickells, Senior Administrative Officer
Dental School
The University of Western Australia
Faculty of Medicine and Dentistry
179 Wellington Street
Perth WA 6000, Australia
Telephone: +61 8 9220 5813
Facsimile: +61 8 9221 3829
Email: mstickel@cyllene.uwa.edu.au

International student enquiries are to be addressed to:

Mr Kelly Smith
International Students Officer (Postgraduate)
The University of Western Australia
Nedlands, WA 6009, Australia
Telephone: +61 8 9380 7226
Facsimile: +61 8 9382 4071
Email: ksmith@admin.uwa.edu.au

Sydney: Master of Dental Science (Orthodontics), University of Sydney

Introduction

The postgraduate orthodontic course at the University of Sydney is a three-year full-time program, that leads to the qualification of Master of Dental Science (MDS Orthodontics). The clinical component of the course is based in two teaching hospitals: United Dental Hospital (UDH) (95%) and Westmead Centre for Oral Health (WCOH) (5%). There are no paid registrar positions available at United Dental Hospital; however, postgraduates are paid as registrars for their clinical activities at Westmead Centre for Oral Health.

In 1997, the MDS program was re-organised to cover the requirements of ERASMUS and the American Board of Orthodontics, and a comprehensive curriculum, not previously available, was prepared.

The program consists of 70 per cent clinical and 30 per cent research work. The main research topics are pre-selected for the postgraduate students in parallel with the mainstream areas of research of the Discipline and the Faculty of Dentistry. Coursework

and research components of the course have to be completed to fulfil the requirements of the degree.

The Australian Society of Orthodontists and the Australia Dental Council conducted a survey of all Australian orthodontic programs in 1999 for the purpose of accreditation. The Discipline of Orthodontics, University of Sydney was fully accredited.

Discipline staff

There are three full-time positions in the Discipline:

The Professorship and Chair of Orthodontics is sponsored by the Australian Society of Orthodontists (NSW). A trust fund was established by generous donations from ASO (NSW) members. The position was filled in 1997.

An Associate Professor/Senior Lecturer position is jointly created by WCOH and the Faculty of Dentistry and was recently offered to a colleague from overseas. There are also a 0.3 full-time equivalent (FTE) lecturer, a 0.3 FTE academic support officer, a 1.0 FTE administrative assistant (joint appointment with the UDH) and 1.0 FTE orthodontic technician positions.

The Discipline of Orthodontics at the University of Sydney is fortunate to have the support of 24 members of the ASO (NSW) participating in teaching and clinical supervision as Postgraduate Specialist Associate Lecturers. They are namely:

David Bachmayer, Russell Kift, Rolf R. Schimann
Kit C. Chan, Peter Lewis, James Smyth
Michael Counsel, Stuart McCrostie, Jane B. Spark
Michael Dineen, John Mamutil, Franciscus Tan
Steve L. Duncan, Ken G. Marshall, Paul Taylor
Martin Fine, Tony O'Meara, Dan Vickers
Roy Fox, Ted Peel, Hilton Wasilewsky
Joseph P. Geenty, Morris Rapaport and Bill Weekes.

Undergraduate teaching is supported by 16 members of the ASO (NSW) Specialist Associate Lecturers:

Andrew Barry, Ian Hoeltschi, Morris Rapaport
Ernest Chan, Young-Ki Hong, Yvonne Poon-Young
Michèle Fong, Andrew McNaught, Steve Stramotas
Peter Frost, John Mamutil, Franciscus Tan
Shane Fryer, Atul Mehta, Gareth Ho and
Tim Mew-Sum.

Course structure

The course content and roster are prepared before the commencement of the academic year, which starts in the second week of January. The curriculum booklet describes the daily clinical and research activities of each postgraduate student throughout the year. The supervisors are also designated for each tutorial/seminar/case presentation and clinical session.

The course begins with an intensive introductory course of three weeks, which aims to provide basic

diagnostic knowledge for the first-year students in preparation for clinical work. Areas in basic sciences are also covered during the intensive course and include: biostatistics, biomaterials, oral imaging, photography, oral immunology, microbiology, cariology, pain control and aspects of preventive dentistry. During the initial months, students are instructed in rigorous Begg/Tip-Edge (four days), Standard/Straight-Wire Edgewise (four days) and Speed technique (two days) typodont courses. There is a big brother/big sister set-up to make the orientation easier for the new students. The first-year students are helped during their initiation of the MDSc requirements.

During the early days of the intensive week a "Core Orientation" program is held at UDH for new orthodontic postgraduate students to familiarise themselves with administrative and clinical functions of the hospital. Another "Core-Course" program is organised at Westmead Centre for Oral Health and conducted for all first-year dental postgraduate students. This course allows the postgraduate students to update their knowledge in different fields of Dentistry, and creates an inter-relationship between disciplines and between the two teaching hospitals.

The postgraduates acquire patients primarily from hospital-eligible people screened from the waiting list or from interdisciplinary clinics such as the orthodontics/paedodontics (UDH and WCOH), orthodontics/periodontics/prothodontics (UDH and WCOH), craniofacial and cleft-palate (New Children's Hospital, Westmead). Each postgraduate student is assigned to consultant clinics in the two teaching hospitals through the year and must fill a quota that specifies a maximum number of 95 patients to be managed, 50 of which are to be new cases. Clear guidelines are given for the number and type of malocclusion, appliance and treatment modalities: extraction (15 cases), non-extraction (10 cases), functional appliances (7 cases), headgear (3 cases), and cleft palate (2 cases). The orthognathic surgery component of the course is extremely sound and students work with two surgical teams to conduct joint treatment planning sessions at United Dental Hospital and also in conjunction with the Maxillofacial Unit in WCOH. Each student is required to treat at least five orthognathic surgery cases.

Each student attends seven three-hour clinical sessions per week over the entire period of the course. Two of these sessions are devoted to the Begg and Tip-Edge techniques, and the remaining sessions provide a broad knowledge of Straight-wire/Speed techniques and orthopaedic treatment modalities as well as exposure to lingual technique treatment. The

Lingual Technique Clinic is held every six weeks only for second- and third-year students. All patient records and case files are prepared to international standards.

In WCOH, second- and third-year postgraduate students cover two clinical days per week and also supervise the fifth-year undergraduate students in the clinic. Postgraduate students also hold an undergraduate tutorial/discussion seminar after each clinical session. Postgraduate students are rostered in WCOH every third week.

Every day there is a tutorial for first, second and third-year students and, depending on the topic, different years attend the tutorials. Case presentation seminars are nearly always for all the postgraduates to attend. The tutorials are not for "gathering information": information gathering is carried out during the reading of articles and texts and during the preparation of the assignment prior to the tutorial. The tutorials are for discussion (and brief summarisation) of the topic. Current orthodontic literature is also reviewed and discussed during designated tutorials.

The didactic components provide a broad range of topics that are dealt with using a lecture or seminar format. The topics include:

- Basic sciences
- Growth and development
- Biomechanics
- Diagnosis and treatment planning
- Occlusion and TMJ
- Orthognathic surgery
- Cleft lip and palate
- Interdisciplinary treatment
- Relapse and retention
- Practice management
- Research methodology

During the three-year program students prepare ten assignments on various topics.

An assignment summarising the topic is prepared and delivered to the tutor concerned ten days prior to that topic being discussed in the tutorial. The assignments vary in length, depending on the depth of the topic. These assignments are written and referenced in the manner of a scientific review. They are handed in at the end of the tutorial dealing with that topic and saved on the file named "Assignments" in a designated computer. First year students are guided by second and third year students regarding the format for the assignments and tutorials.

During the three-year course, students have to make eight different types of removable and fixed appliances under the supervision of the university technician.

Research studies

According to the university regulations students require to undertake, satisfactorily complete and report on a research project in order to fulfil the requirements of the degree. Starting in 2000, the thesis format is made optional and the research thesis can be presented in the form of a manuscript for publication in a refereed journal.

Research study forms 30 per cent of the overall assessment of the MDSc degree. It is expected that the research experimentation and write-up of the thesis or the manuscript be completed and submitted for assessment by the middle (July) of the third year. All corrections and examiners' recommendations are finalised, and a research manuscript is prepared for publication during the second half of the third year of the course. The candidate is also required to submit three typed unbound copies of a report on the research work performed. Once changes demanded by the examiners have been made and approved by the supervisor, three bound copies are given to the Postgraduate Student Administration Office and at least one copy to each supervisor and the Discipline.

A wide variety of topics is presently under investigation that includes: physical properties of cementum, root resorption, magnetic forces and fields, biomaterial science, sleep apnoea, distraction osteogenesis, diagnostic tools, functional appliances and cell biology.

Depending on the topic, research is carried out at United Dental Hospital, Institute of Dental Research, Biomaterials Science Unit located at the Australian Technology Park or at Westmead Dental Hospital. Research is well supported by Dr N. Hunter, Director of the Institute of Dental Research and his staff who co-ordinate and help with the supervision of basic science projects. Professor M. Swain oversees the research carried out at the Biomaterials Unit, and Professor M. Walker and Dr H. Zoellner, at the Department of Oral Medicine and Oral Pathology at WCOH supervise orthodontic students for the joint research projects. They range from sophisticated animal handling facilities to cell culture, molecular biology and imaging equipment.

Posters are prepared by first-, second- and third-year students and presented during the ASO (NSW) Clinical Day in June, and Faculty Research Day at Westmead Dental Hospital in October, and also during the local and national meetings.

Each second year student is required to prepare a manuscript of a study, case report or literature review to be submitted to a refereed journal.

Research studies are supported by grants received from the Research Foundation of the Australian Society of Orthodontics in addition to other grants and resources of the the Faculty, the University, dental associations and related fields.

Examinations

Examinations are held in Semester I and Semester II each year of the course and may comprise two three-hour written papers, a *viva voce* examination, a clinical examination and an archwire bending examination.

There are Barrier Examinations for the first-year and second-year students in July and November.

1st year

June and November

Written and oral examination: archwire bending

2nd Year

June: Oral examination: archwire bending

November: Written examination: archwire bending, research study progress presentation, cases in treatment (clinical examination), unseen cases (clinical examination), case files check (all the cases in treatment)

The Semester assessments are also based on the assessment by tutors and adequate progress in the experimental work and presentation of research study. Success at the first-year level and second-year assessments will determine entry into the following year of the program. Students who fail the Barrier Exams are asked to leave the program.

There is a mid-semester wire bending and oral examination in June for third-year MDSc students. MDSc final year examinations are conducted by at least one external and one internal examiner. They are required to:

1. Submit their completed literature review and the manuscript of their MDSc research study, following approval by the Head of Discipline, no later than end of July.
2. Defend their research study with the External Examiner.
3. Present completed case notes and all records (with study models to international standard) for at least 25 patients treated by the examinee. All other case files have to be completed and ready to present during end-of-year examinations.
4. Comment/self-critique on finished cases in the case files.
5. Diagnose and plan treatment of three "unseen" patients in the clinic.
6. Present three patients treated by the examinee in the clinic. These patients must be in the finishing stage of their treatment stage (not retention).
7. Sit for a written examination (clinical and theory).

All students are also assessed and marked regarding all clinical, theoretical and laboratory course work at any time. Students are encouraged to ask for feedback on their performance.

All academic, clinical and research components of the course need to be successfully completed to fulfil the requirements for the award of the MDSc degree.

New locations of the department of orthodontics

At UDH: The Department of Orthodontics has recently moved to its new location on the second floor. The new facilities, which include multimedia systems, are equipped with the latest information technology, acquired with the major equipment grant recently received from the University.

At WCOH: Since January 2000, the clinical location of the Department of Orthodontics has been part of the common postgraduate clinic on the third floor. This gives the postgraduate students the opportunity to interact more easily with other disciplines and facilitates the interdisciplinary approach.

Application and selection

The applicants should have a BDS or the equivalent degree, have performed well or have achieved good results in undergraduate education, have had at least two years of dentistry experience following graduation and an interest in Orthodontics. Dental graduates from universities other than in Australia may, upon application, be granted conditional registration by the Dental Board of New South Wales for the duration of the postgraduate studies as an undergraduate student.

Enquires about registration with the Dental Board should be directed to:

Mrs Barbara Cameron
Registrar,
Dental Board of New South Wales
Level 3, 28-36 Foveaux Street,
Surry Hill NSW 2010
Australia
Telephone: +61 2 9281 0835
Facsimile: +61 2 9211 3606

Three students per year are selected for a program of three calendar years. Selection into the course is highly competitive.

The applications close at the end of March of the previous year and the short-listed candidates are invited to spend one full week of Interview/Selection program in the Discipline during July. The candidates attend tutorials, clinical sessions and meet students and staff in both academic and social environments. Short-listed overseas applicants attend the July Interview/Selection Program together with local applicants. The Program involves interviews, and academic and skills assessments.

Intending candidates are requested to make initial

written applications to:

Ms Pat Skinner
Administration Assistant,
Postgraduate Student Administration
Faculties of Dentistry, Medicine and Pharmacy,
Edward IV Building (A27),

The University of Sydney
Telephone: +61 2 9351 3231
Facsimile: +61 2 9351 3196
Email: pskinner@med.usyd.edu.au

and provide:

- the completed application form
- a detailed *curriculum vitae*
- a photograph of the applicant
- a certified copy of academic transcripts
- the names, addresses and written reports of three referees

MDSc Orthodontics Program Fees (in 2000):

- a) Local postgraduate fee: \$12,500 per annum
- b) Overseas postgraduate fee: \$30,000 per annum

Department Head
Professor M. Ali Darendeliler,
BDS, PhD, Dip. Orth., Certif. Orth., Priv. Doc. (TR), Priv. Doc. (GE),
Professor and Chair,
Discipline of Orthodontics
The University of Sydney
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Surry Hills NSW 2010
Telephone: +61 2 9351 8329
Facsimile: +61 2 9351 8336
Email: darendel@dentistry.usyd.edu.au

Table 1: Course details

School	Course director	Enquiries	Next intake	Advert	Closing date	Interview date
Adelaide	Prof. W. J. Sampson	Prof. W. J. Sampson Dental School Faculty of Health Sciences The University of Adelaide South Australia 5005 Ph: +61 8 8303 3293 Fax: +61 8 8303 3444 Email: wayne.sampson@adelaide.edu.au	Feb. 2001	No	Apr. 2000	Jul. 2000
Brisbane	Prof. T. J. Freer	Prof. T. J. Freer Dental School The University of Queensland Turbot Street Brisbane Qld. 4000 Ph: +61 7 3365 8111 Fax: +61 7 3365 8199 Email: t.freer@mailbox.uq.edu.au	2002	Yes	Apr. 2001	Jul. 2001
Melbourne	A/Prof. M Woods	Assoc. Prof. M. Woods Orthodontic Unit School of Dental Sciences The University of Melbourne 711 Elizabeth St Melbourne Vic 3000 Ph: +61 3 9341 0397 Fax: +61 3 9341 0339 Email: m.woods@dent.unimelb.edu.au	Feb. 2001	Yes	May 2000	Jun. 2000
Perth	A/Prof. M. Goonewardene	Mr Mark Stickells Senior Administrative Officer Dental School The University of Western Australia Faculty of Medicine and Dentistry 179 Wellington Street Perth WA 6000 Ph: +61 8 9220 5813 Fax: +61 8 9221 3829 Email: mstickel@cyllene.uwa.edu.au For international student enquiries please refer to synopsis of this course.	Jan. 2002	Yes	May 2001	Jul. 2001
Sydney	Prof. M. Ali Darendeliler	Professor M. Ali Darendeliler Faculty of Dentistry Discipline of Orthodontics The University of Sydney United Dental Hospital 2nd Floor, 2 Chalmers Street Surry Hills NSW 2010 Ph: +61 2 9351 8329 Fax: +61 2 9351 8336 Email: darendel@dentistry.usyd.edu.au	Jan. 2002	No	Mar. 2001	Jul. 2001

Table 2: Number of Postgraduate places

School	Full-time	Part-time	Overseas	Frequency of intake
Adelaide	3	0	Varies (no quota)	Annually
Brisbane	3	0	1	Annually
Melbourne	3	0	1	Annually
Perth	4	0	1-2	Biennially
Sydney	4	0	Varies	Annually

Table 3: Salary

School	Do postgraduate students receive a salary?	Grade of salary	1st Year (A\$)	2nd Year (A\$)	3rd Year (A\$)
Adelaide	Yes	DSO1 4th-5th increment	Nil	\$11,850	\$15,250
Brisbane	Yes. Part-time registrar	Variable	Nil	Yes	Yes
Melbourne**	Yes	DHSV Scholarship	\$13,000	\$13,000	\$13,000
Perth	No. Scholarship available for Aust. and NZ residents		Nil	Scholarship	Scholarship
Sydney	No			Funds available when working in Westmead Hospital as Registrar	Funds available when working in Westmead Hospital as Registrar

** Overseas postgraduate students do not receive a scholarship

Table 4: Entry requirements

School	High academic achievement in university undergraduate dental course	FRACDS Part I	FRACDS Part II	GDP Experience	Publication	Minimum number of years of clinical experience
Adelaide	Yes	Desirable or Graduate Diploma or Honours degree	Desirable	Broad based, with continuing education courses	Not essential, but desirable	2 years
Brisbane	Yes	Encouraged, not required		At least 2 years		
Melbourne	Yes	Generally	No	Preferred	Not necessary	3 years
Perth	Yes	No	No	2 years	No	2 years
Sydney	Yes	Preferable, but not compulsory	Preferable, but not compulsory	2 years	Preferable, but not compulsory	2 years (at the time of start)

Table 5: Course fees: Australian postgraduate students

School	Total fees (A\$) Per year	Are fees revised annually?	Is a deposit required? How much?	Method of payment: instalments or lump sum
Adelaide	\$15,000	Yes	No	6 instalments of \$7,500
Brisbane	\$12,000	No	No	Pay every semester
Melbourne	\$22,500	No	No	Either lump sum or by instalments
Perth	\$10,000	Fixed for term of course	No	Two payments per year
Sydney	\$12,500	Yes	No	Pay every semester

Table 6: Course fees: Overseas postgraduate students

School	Total fees (A\$) Per year	Are fees revised annually?	Is a deposit required? How much?	Method of payment instalments or lump sum
Adelaide	\$25,000	Yes	Yes - \$12,500	6 instalments of \$12,500
Brisbane	\$28,000	No	No	Pay every semester
Melbourne	\$24,500	No	No	Either lump sum or by instalments
Perth	\$28,840	No	No	Two payments per year
Sydney	\$30,000	Yes	No	Pay every semester

Table 7: Clinical aspects of the orthodontic program

School	Number of clinical sessions per week			Is there a DGH placement?	Ratio of supervisors to postgraduates	Approximate case load		
	1st Year	2nd Year	3rd Year			1st Year	2nd Year	3rd Year
Adelaide	5.5	5.5	8	Cleft palate clinics ½ day/month	1:3	35	60	100
Brisbane	5	5	5	No	1:6	30	40	45
Melbourne	5-6	6-7	6-7	No	1:9	50	90	130
Perth	7	7	7	No	1:2	40	60	60
Sydney	6-8	6-8	6-8	No	1:2	60	75	80

Table 8: Academic component of the course

School	Format of academic program			Is the program combined with other schools?	Personnel involved in teaching			
	Lectures	Seminars	Tutorials		Professor	Senior Lecturer	Lecturer	Specialist Practitioner
Adelaide	Yes	Yes	Yes	No	Yes	Yes	No	Yes
Brisbane	Yes	Yes	Yes	No	Yes	Yes (pending)	Yes	Yes
Melbourne	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Perth	Yes	Yes	Yes	Biostatistics course in Public Health School	No	Yes	Yes	Yes
Sydney	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes

Table 9: Research interests

Course	Biomaterials	Basic science	Retrospective clinical studies	Prospective clinical studies	Multi-centre studies	Specific research interests
Adelaide	Yes	Yes	Yes	Yes (mainly PhD)	Not at present	Biology of tooth movement Treatment outcomes
Brisbane	Yes	Yes	Yes			
Melbourne	Yes	Yes	Yes	Yes	Yes	Human vertical facial form: anatomy and physiology Modification of facial growth and dental arch development
Perth	Yes	Yes	Yes	No	No	Epidemiology Orthognathic surgery
Sydney	Yes	Yes	Yes	Yes	Yes	Biology of tooth movement: root resorption Functional appliances. Video imaging Distraction osteogenesis. Sleep apnea

Table 10: Examination

Course	MDS/DCD Exam written	Clinical	Final exam	Year of MDS/DCD thesis submission	Thesis defence
Adelaide*	Yes	Yes	Year 3	Year 2	Yes
Brisbane	Yes	Yes	Year 3	Year 3	Yes
Melbourne	Yes	Yes	Year 3	Year 2 or Year 3	No public oral defence, but compulsory submission for publication
Perth	Yes	Yes	Year 3	Year 3	Yes
Sydney	Yes	Yes	Year 3	Year 3	Yes

* Doctor of Clinical Dentistry