PROGRAMME SPECIFICATION	

1	**Awarding Institution**	Newcastle University
2	**Teaching Institution**	Newcastle University
3	**Final Award**	MSc in Orthodontics
4	**Programme Title**	MSc in orthodontics
5	**UCAS/Programme Code**	5009
6	**Programme Accreditation**	The Specialist Advisory Committee (SAC) in Orthodontics on behalf of the Joint Committee for Specialist Training in Dentistry (JCSTD) which reports to the General Dental Council and the Dental Faculties and Councils of the Royal Colleges of Surgeons.
7	**QAA Subject Benchmark(s)**	
8	**FHEQ Level**	
9	**Date written/revised**	15/8/07

10 Programme Aims

The aim of the program is to enable dentists to acquire advanced skills and knowledge in the field of Orthodontics. The course is designed to provide the foundations for:

- Specialist practice
- Specialist training in Orthodontics
- Clinical academia
- Community Dental Services

Specifically, the program aims to provide:

1. Clinical and laboratory practice involving treatment planning, clinical procedures and technical work for Orthodontic cases requiring both routine and complex treatments
2. The ability to evaluate critically the evidence base for Orthodontics
3. Experience of performing applied research within Orthodontics

11 Learning Outcomes

The programme provides opportunities for students to develop and demonstrate knowledge and understanding, qualities, skills and other attributes in the following areas. The programme outcomes have references to the benchmark statements for (subject) (X).

Knowledge and Understanding

On completing the programme students should:

A1 A systematic understanding of knowledge within and directly related to Orthodontics, and a critical awareness of current problems and new insights, much of which is at, or informed by, the forefront of the field of study and area of professional practice

A2 A comprehensive understanding of techniques applicable to Orthodontic practice and their own research

A3 Originality in the application of clinical and scientific knowledge, together with a practical understanding of how established techniques of research and enquiry are used to create and interpret knowledge in the discipline

A4 Conceptual understanding that enables the student:

- to diagnose anomalies of the dentition and cranio-facial structures
- to understand the aetiology of malocclusion
- to understand the clinical approach to management of patients and the timing

of treatment appropriate to physical and psychological development
- to understand the principles and practice of orthodontic treatment, including an understanding of a variety of treatment methods
- to understand the principles and practice of cephalometry
- to have an ability to evaluate critically scientific literature and carry a research project through to completion.

Teaching and Learning Methods

Teaching for A1 is mainly by pre-arranged tutorials, the majority of which are completed during the first 2 years of the course. Each tutorial has a structured reading list prioritized where necessary into essential and recommended reading. These lists are reviewed annually. There is a weekly journal club in which students are expected to participate. For items A2, A3 and A4 students are given clinical teaching whilst treating patients with orthodontic problems. Students engage in a research dissertation and statistics/research methodology course. Students are expected to attend the Dental Hospital and Regional Clinical Audit Meetings.

Students are expected to prepare for each tutorial and to engage in tutorial discussion. Each student has a research project and is allocated suitable patients for diagnosis and treatment.

Assessment Strategy

A1 is assessed at the end of the second year by set essays and a short answer paper. In-course essays are set during the first and second years. Practice questions are set in the run up to the written examination. Assessment of clinical knowledge is described below. The dissertation literature review is assessed internally at the end of the first year and the whole dissertation at the end of the second term of the 3rd year (A3). At the end of the third year a clinical exam of knowledge and patient management is undertaken (A2; A4).

Intellectual Skills

On completing the programme students should be able to:
B1 The ability to assess, diagnose and formulate an appropriate treatment plan including an organized sequence of delivery and prediction of its course

B2 The ability to assess prognosis of the preferred treatment option based on clinical outcome studies and audit

B3 The ability to recognize the need for continuous reassessment of patient response as treatment progresses

B4 The ability to formulate a clear laboratory prescription and understand the technical procedures involved

B5 The ability to process letters of referral, to prioritise appointments, and liaise with general dental practitioners

B6 The ability to treat patients with respect and without prejudice

B7 The ability to appreciate your limitations and to take advice or refer a patient when appropriate

B8 The ability to plan interceptive orthodontic measures

Teaching and Learning Methods

Patients are allocated for treatment under supervision, requiring increasingly complex work as the course progresses. Diagnostic and treatment clinics are timetabled specifically for students. There are a number of resource days shared with members of the Northern

University Consortium (NUC); Leeds, Newcastle, Birmingham, Sheffield, Liverpool and Manchester

Assessment Strategy

Student performance is assessed informally for each patient management session. Informal feedback by teachers is given during sessions and agreed grades recorded reflecting clinical work, patient management and professional ability. All formal and informal assessment is recorded in a student held portfolio.

Four fully documented cases treated by the student are presented at the end of year 3 as part of the final examination

Practical Skills

On completing the programme students should be able to:
C1 Deal with complex issues both systematically and creatively, make sound judgements in the absence of complete data, and communicate their conclusions clearly to specialist and non-specialist audiences
C2 Demonstrate self-direction and originality in tackling and solving problems, and act autonomously in planning and implementing tasks at a professional or equivalent level
C3 Continue to advance their knowledge and understanding, and to develop new skills to a high level; critical skills necessary for scientific appraisal and enquiry
C4 Develop a critical attitude towards outcome of treatment and participation in professional audit

Teaching and Learning Methods

Research supervisors and projects are allocated at the start of the first year. Aims and objectives for the project are established and a full draft literature review completed by the end of the 1st year. Students are expected to plan and manage the treatment of their patients and present at case conferences.

Students attend regular meetings with their supervisors and meet deadlines for the various components of the project. An up-to-date research journal must also be kept as part of the learning portfolio. Students report their patients' progress to their clinical supervisors and colleagues.

Continuous formative feedback is given during clinical attachments and in tutorial and seminars.

Assessment Strategy

The literature review is assessed by an internal examiner and constructive feedback given at the start of the second year. At the end of the second term of the 3rd year the full dissertation is examined formally by the external and internal examiners. At that time A1, A2, A3 and A4 are examined by a general orthodontic viva voce and dissertation viva.

Transferable/Key Skills

On completing the programme students should be able to:
D1 The ability to use appropriate IT skills for data analysis and documentation
D2 The ability to use efficiently the library and other information retrieval systems
D3 The realisation that academic and clinical skills need to be constantly reviewed challenged and updated through continuing professional development in which you should play an active part in both receipt and delivery
D4 The ability to work in harmony with peers, support staff and teachers with a view to becoming a team leader

Teaching and Learning Methods

D 1, 2 word processing, library skills and Medline during induction week. Advanced word processing and use of Endnote bibliographic software during term 2 or 3 in conjunction with literature review writing. Statistical course (term 2) and statistics applied to research project (terms 2-6). Students expected to organise their own clinical practice to meet assessment

targets (D4).
Learning is problem based in relation to tackling research project, presenting seminars and developing clinical practice.

Assessment Strategy

Assessment of research project described in C. Constructive feedback on clinical performance, clinical teaching and seminar presentation.

12 Programme Curriculum, Structure and Features

Basic structure of the programme

The 3 year programme (9 terms) comprises 3 main areas:

1. Supervised clinical and laboratory practice involving treatment planning, clinical procedures and technical work for selected cases, including some complex treatments

2. Review of the clinical and scientific evidence base for Orthodontics by means of tutorials, case seminars and practical classes

3. A research project and dissertation demonstrating a candidate's application of scientific method to a problem of relevance to Orthodontics.

Students can expect a high degree of clinical exposure under expert tuition (students have up to 5 treatment sessions and one diagnostic clinic session per week). There is excellent technical support and students are encouraged to liaise with the laboratories. Students are not expected to undertake technical laboratory procedures. The dissertation for the research project is written up as paper(s) for submission to a journal during the third year. This approach will facilitate the candidate getting the work published and the scrutiny of the learning portfolio will encourage good record keeping.

Each student keeps a learning portfolio which encourages reflective learning and personal development planning as well as recording meetings, formative and summative assessment. These form part of the Educational Regular In-Course Appraisal (ERICA) discussion between the DPD and students

(ii) Curriculum and Structure

The foundation for clinical practice consists of a clinical skills and laboratory course completed during the induction weeks which the student must complete satisfactorily, prior to seeing patients under supervision. During all 3 years students see patients for treatment and diagnosis.

The seminar programme is based on 9 compulsory modules:

- Basic orthodontic subjects.
- General orthodontic subjects.
- Orthodontic techniques.
- Biological sciences relevant to orthodontics.
- Multidisciplinary treatment procedures.
- Specific treatment procedures.
- Information technology.
- Management of oral health.
- The practice and business of specialist orthodontic practice.

With the exception of the practice and business modules, the majority of the tutorials are completed by July of the second year. A satisfactory performance in the written papers in

July is necessary to progress to year 3. The research project is spread across the first 2 1/2 years. During the first year; aims, literature and pilot studies must be completed. It is a requirement for progression from year one to two that the draft literature review be handed in for assessment and comment at the end of July of the first year. Practical work may be spread between both years and writing-up completed by the for submission of the dissertation by the start of the 2nd term in the 3rd year.

Key features of the programme (including what makes the programme distinctive)

Programme regulations (link to on-line version)

http://www.ncl.ac.uk/regulations/programme/2007-2008/programme/5009.php

13 Criteria for admission

Entry qualifications

A Dental Degree recognised by the GDC as being sufficient for the purposes of temporary registration. Applicants are preferred with two or more years of experience at the start of the programme. Overseas and EC students need at least IELTS 6.5 (TOEFL 575, computer based 233). Students must have the required immunisation against blood born viral disease and must not have any disease which would constitute a hazard to their patients. Students are advised to attend to these requirements before starting the course and will not be allowed clinical access until they have done so.

Admissions policy/selection tools

E2R

Non-standard Entry Requirements

Additional Requirements

Level of English Language capability

IELTS minimum of 6.5

14 Support for Student Learning

Induction

During the first week of the first semester students attend an induction programme. New students will be given a general introduction to University life and the University's principle support services and general information about the School and their programme, as described in the Degree Programme Handbook. New and continuing students will be given detailed programme information and the timetable of lectures/practicals/labs/ tutorials/etc. The International Office offers an additional induction programme for overseas students (see http://www.ncl.ac.uk/international/arrival/jan/index.phtml

Study skills support

Students will learn a range of Personal Transferable Skills, including Study Skills, as outlined in the Programme Specification. Some of this material, e.g. time management is covered in the appropriate Induction Programme. Students are explicitly tutored on their approach to both group and individual projects.

Numeracy support is available through Maths Aid. Further details are available at:

http://www.ncl.ac.uk/library/news_details.php?news_id=159 Help with academic writing is available from the Writing Centre. Details can be obtained from Alicia.Cresswell@ncl.ac.uk

Academic support

The initial point of contact for a student is with a lecturer or module leader, or their tutor (see

below) for more generic issues. Thereafter the Degree Programme Director or Head of School may be consulted. Issues relating to the programme may be raised at the Staff-Student Committee, and/or at the Board of Studies.

Pastoral support
All students are assigned a personal tutor whose responsibility is to monitor the academic performance and overall well-being of their tutees. Details of the personal tutor system can be found at http://www.ncl.ac.uk/undergraduate/support/tutor.phtml
In addition the University offers a range of support services, including the Student Advice Centre, the Counselling and Wellbeing team, the Mature Student Support Officer, and a Childcare Support Officer, see
http://www.ncl.ac.uk/undergraduate/support/welfare/index.phtml

Support for students with disabilities
The University's Disability Support Service provides help and advice for disabled students at the University - and those thinking of coming to Newcastle. It provides individuals with: advice about the University's facilities, services and the accessibility of campus; details about the technical support available; guidance in study skills and advice on financial support arrangements; a resources room with equipment and software to assist students in their studies. For further details see http://www.ncl.ac.uk/disability-support/

Learning resources
The University's main learning resources are provided by the Robinson and Walton Libraries (for books, journals, online resources), and Information Systems and Services, which supports campus-wide computing facilities, see
http://www.ncl.ac.uk/undergraduate/degrees/facilities/index.phtml

All new students whose first language is not English are required to take an English Language Proficiency Test. This is administered by INTO Newcastle University Centre on behalf of Newcastle University. Where appropriate, in-sessional language training can be provided. The INTO Newcastle University Centre houses a range of resources which may be particularly appropriate for those interested in an Erasmus exchange. See
http://ncl.ac.uk/langcen/index.htm

15 Methods for evaluating and improving the quality and standards of teaching and learning

Module reviews
All modules are subject to review by questionnaires which are considered by the Board of Studies. Changes to, or the introduction of new, modules are considered at the School Teaching and Learning Committee and at the Board of Studies. Student opinion is sought at the Staff-Student Committee and/or the Board of Studies. New modules and major changes to existing modules are subject to approval by the Faculty Teaching and Learning Committee.

Programme reviews
The Board of Studies conducts an Annual Monitoring and Review of the degree programme and reports to Faculty Teaching and Learning Committee.

External Examiner reports
External Examiner reports are considered by the Board of Studies. The Board responds to these reports through Faculty Teaching and Learning Committee. External Examiner reports are shared with institutional student representatives, through the Staff-Student Committee.

Student evaluations
All modules, and the degree programme, are subject to review by student questionnaires. Informal student evaluation is also obtained at the Staff-Student Committee, and the Board of Studies. The National Student Survey is sent out every year to final-year undergraduate students, and consists of a set of questions seeking the students' views on the quality of the learning and teaching in their HEIs. Further information is at www.thestudentsurvey.com/ With

reference to the outcomes of the NSS and institutional student satisfaction surveys actions are taken at all appropriate levels by the institution.

Mechanisms for gaining student feedback
Feedback is channelled via the Staff-Student Committee and the Board of Studies.

Faculty and University Review Mechanisms
The programme is subject to the University's Internal Subject Review process, see http://www.ncl.ac.uk/aqss/qsh/internal_subject_review/index.php

Accreditation reports

The NHS Specialist Registrar Training Programme, which reflects the MSc in Orthodontics, is inspected every six years by the Royal College of Surgeons' Specialist Advisory Committee in Orthodontics. In addition, the NHS Registrars on the Training Programme are interviewed every three years by representatives of the SAC.

Additional mechanisms

16 Regulation of assessment

Pass mark
The pass mark is 40 (Undergraduate programmes)
The pass mark is 50 (Postgraduate programmes)

Course requirements
Progression is subject to the University's Undergraduate Progress Regulations (http://www.ncl.ac.uk/calendar/university.regs/ugcont.pdf) and Undergraduate Examination Conventions (http://www.ncl.ac.uk/calendar/university.regs/ugexamconv.pdf). In summary, students must pass, or be deemed to have passed, 120 credits at each Stage. Limited compensation up to 40 credits and down to a mark of 35 is possible at each Stage and there are resit opportunities, with certain restrictions.

Progression is subject to the University's Masters Degree Progress Regulations, Taught and Research (http://www.ncl.ac.uk/calendar/university.regs/tpmdepr.pdf) and Examination Conventions for Taught Masters Degrees (http://www.ncl.ac.uk/calendar/university.regs/tpmdeprexamconv.pdf). Limited compensation up to 40 credits of the taught element and down to a mark of 40 is possible and there are reassessment opportunities, with certain restrictions.

MSc Examination

The examination, which must be passed as a whole, consists of the following:

1. In course essays (14 in total): Titles are given at completion of the appropriate tutorial. Students have 2 weeks to complete the essay
2. Part 1 (taken in third term of year 2)

	Effective Weighting
Written Paper 1	25%
Written Paper 2	25%
Oral Examination	25%
In-course Assessment	25%

The written papers each have four questions, to be answered in three hours. The oral examination is a 20 minute *viva voce* examination.

3. Part 2 (taken in first term of year 3)

   Dissertation and Oral Examination

   Dissertations must be submitted not later than 31st of January in the 3rd year of the course. Candidates who have attained a minimum Satisfactory grade for the Dissertation shall be exempt from an oral examination on the dissertation.

4. Part 3

   Presentation of 4 completed clinical cases
   1 Long unseen case viva voce exams
   2 short unseen clinical case viva voce exams.

   During the long unseen case the candidate has 40 minutes in which to examine a patient, following which there is a 20 minute period with the examiners in the course of which the candidate presents his/her findings and discusses the possibilities with regard to treatment. The short unseen cases; the student has 10 minutes to examine study models, x-rays and photographs following which the candidate has 10 minutes with the examiners. The clinical oral examination is a discussion of the presented cases treated by the candidate, based on the records of those cases

The final mark assigned to each candidate will be a grade, S or M being required to pass. In addition candidates must attain a minimum grade of S in each of the three parts of the examination.

- Candidates who satisfy the examiners at the first attempt and who show special achievement in the examination may be awarded a pass with Distinction. The marks required for the award of Distinction shall be determined at the Meeting of Examiners.
- A candidate whose dissertation does not satisfy the examiners, but who has satisfied the examiners in other parts of the examination, may be permitted by the Board of the Faculty, on the recommendation of the examiners, to re-submit the dissertation in a revised form within six months from a date approved by the Board. The candidate may also be required to undergo a further oral examination.
- A candidate who submits a satisfactory dissertation, but who fails to satisfy the examiners in other part or parts of the examination, may be permitted by the Board of the Faculty, on the recommendation of the examiners, to re-sit the examination on one further occasion within six months from a date approved by the Board.
- A candidate who has failed in any part or parts of the examination may be required by the Examiners to produce evidence of further study as prescribed by the Examiners before being allowed to re-sit the examination.
- A candidate may, through the Board of Examiners Scrutiny Sub Committee, draw the attention of the Examiners to medical or personal problems or circumstances which may have affected the candidate's performance in the examination. The Board of Examiners will decide to what extent these circumstances should be taken into account. The Board of Examiners has the ultimate discretion to pass a candidate at any level provided that the candidate has attempted every paper or component of the examination at the relevant occasion.

Common Marking Scheme

MSc Grading system

The scheme, UMBS, uses the following grades and descriptors:

M Merit
S Satisfactory
B Borderline

U Unsatisfactory

Role of the External Examiner

An external examiner for the course (currently Dr Donald Burden) is appointed by the Faculty of Medical Science Teaching and Learning Committee (FTLC). The external examiner is a distinguished member of the Dental Science community and a specialist in Orthodontics.

The external examiner's role is that of moderator. In order to do this, the external examiner:

- Sees and approves examination questions
- Sees examination scripts, comments on the standards of marking and moderates discrepancies in double marking
- Sees the learning portfolio and examines selected clinical cases
- Examines dissertations
- Performs viva voce examinations for all students
- Attends the Board of Examiners Meeting
- Reports to the University regarding standards, and comparability of standards

In addition, information relating to the programme is provided in:

The University Prospectus (see http://www.ncl.ac.uk/undergraduate/)

The School Brochure (contact enquiries@ncl.ac.uk)

The University Regulations (see http://www.ncl.ac.uk/calendar/university.regs/)

The Degree Programme Handbook

Please note. This specification provides a concise summary of the main features of the programme and of the learning outcomes that a typical student might reasonably be expected to achieve if she/he takes full advantage of the learning opportunities provided. The accuracy of the information contained is reviewed by the University and may be checked by the Quality Assurance Agency for Higher Education.