

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)	N/A
8	FHEQ Level	N/A
9	Date written/revised	20/06/2012

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 primarily routine treatment and some treatment of moderate complexity
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.

Knowledge and Understanding

On completing the programme students should have:

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 an understanding of 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 a 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 the knowledge based components of A1, A2, A3 and A4 is mainly by timetabled small group seminars, the majority of which are completed during the first 2 years of the course. Each seminar has a structured reading list which is reviewed annually and prioritized where necessary into essential and recommended reading. Students are expected to prepare for each seminar and to engage in discussion. There is a regular journal club in which students are expected to participate. There are a number of resource days shared with members of the Northern University Consortium (NUC); Leeds, Newcastle, Birmingham, Sheffield, Liverpool and Manchester.

The teaching and learning of research and intellectual skills as they relate to A1-A4 are discussed under 'Intellectual skills'.

Acquisition of the knowledge components of practical and clinical skills as they relate to A1-A4 are discussed under 'Practical Skills'.

Assessment Strategy

Theoretical knowledge (encompassing A1, A2, A3 & A4) is assessed at the end of the second year by 2 written exams (comprising essays and a short answers) and a viva-voce examination. In-course essays are undertaken during the first and second years.

Knowledge relating to the research component is assessed primarily in the Part 1 written and viva voce exams and in the dissertation viva (Part 2).

Clinical knowledge is assessed throughout the course through formative competency exercises. Summative assessment of clinical knowledge is undertaken throughout all assessments, but primarily in the Part 3 examinations.

Intellectual Skills

On completing the programme students should be able to:

B1 Critically evaluate research / research findings and use these to inform clinical practice where appropriate

B2 Interpret clinical findings and observations to make a diagnosis and treatment plan and recognise the need for continuous reassessment as treatment progresses.

B3 Develop a critical attitude towards clinical / treatment outcomes and participate in audit and peer review

B4 Recognise and accept their own limitations and know when, where and how to refer patients if appropriate

Teaching and Learning Methods

Teaching and learning of the theoretical knowledge underpinning these skills is as for A1-A4 above.

Additionally, all students attend a statistics / research methodology course which gives an introduction to research (B1). All students undertake a research project, involving a dissertation element, supervised by at least 2 research supervisors (B1).

All students engage in a weekly journal club meeting which involves critical appraisal of a journal article or case discussion (B1-B3). Critical appraisal of published research is used to inform small group seminars (B1-B3). Students are expected to attend and engage in local and regional audit meetings. (B3)

B2-B4 are also developed clinically, as described below.

Assessment Strategy

The ability to critically appraise evidence is assessed throughout the course through the submission of assessed essays. This is further assessed in the Part 1 viva-voce examination at the end of second year.

The ability to appraise own research in the context of existing knowledge is assessed in the literature review (formative assessment / feedback), dissertation and linked viva-voce examination associated with the research element of the course (Part 2, summative assessment).

Practical Skills

On completing the programme students should be able to:

C1 Assess, diagnose and formulate an appropriate treatment plan including an organized sequence of delivery and prediction of its course, including any required interceptive measures

C2 Assess prognosis of the preferred treatment option based on clinical outcome studies and audit

C3 Provide treatment for orthodontic patients of moderate complexity

C4 Formulate a clear laboratory prescription and understand the technical procedures involved

C5 Process letters of referral, prioritise appointments, and liaise with general dental practitioners and other healthcare practitioners

C6 Treat patients with respect and without prejudice

Teaching and Learning Methods

Teaching and learning of the theoretical knowledge underpinning these skills is as for A1-A4 above.

Teaching and learning of practical skills commences in year 1 with a laboratory based typodont course, facilitating the acquisition of basic skills. Students receive one-to-one and small group teaching whilst treating / observing patients with orthodontic problems. Each student is allocated suitable patients for the development of treatment and diagnostic skills and are expected to undertake increasingly complex treatment / diagnoses as the course progresses. Formative clinical competency assessments are undertaken and feedback from these used to inform teaching / learning.

Assessment Strategy
<p>Formative assessment / feedback is undertaken throughout the clinical attachment, as described.</p> <p>Summative assessment of practical skills is undertaken in the Part 3 examinations. Four fully documented cases treated by the student are presented and assessed. A long unseen case assesses the students ability to undertake a comprehensive patient assessment and formulate an appropriate treatment plan. A viva-voce examination assesses the students understanding of a range of clinical scenarios.</p>
Transferable/Key Skills
<p>On completing the programme students should be able to:</p> <p>D1 use appropriate IT skills for data analysis and documentation</p> <p>D2 use efficiently the library and other information retrieval systems</p> <p>D3 understand 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</p> <p>D4 work in harmony with peers, support staff and teachers with a view to becoming a team leader</p>
Teaching and Learning Methods
<p>Students receive training in IT and information retrieval at the start of the course (D1, D2). D3 is learned and taught through involvement in journal club / audit / clinical governance activities. D4 is acquired through teamworking in seminars and alongside the clinical training.</p>
Assessment Strategy
<p>Summative assessment of essays and the research element (Part 2) will provide an indication of IT and information retrieval skills (D1, D2). This course runs in parallel with the StR clinical training pathway, which assesses CPD and teamworking as part of the ARCP process (D3, D4).</p>

12 Programme Curriculum, Structure and Features
Basic structure of the programme
<p>The 3 year programme (9 terms) comprises 3 main areas:</p> <ol style="list-style-type: none"> 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. The structure of the research element may be adapted if the student can demonstrate significant prior research experience (eg. PhD).

Each student is required to keep a clinical portfolio and encouraged to complete 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 NHS ARCP process which runs in parallel with the MSc course.

(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 8 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 majority of the tutorials are completed by July of the second year. The research project is undertaken during the first 2 1/2 years. During the first year; aims, literature and pilot studies should 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 for the submission of the dissertation by the end of January in the 3rd year.

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

Students can expect a high degree of clinical exposure under expert tuition (students have up to 5 Clinical sessions and one diagnostic clinic session per week). There is excellent technical support and students are encouraged to liaise with relevant laboratories. Students are not expected to undertake extensive 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. Scrutiny of the clinical portfolio will encourage good record keeping.

Programme regulations (link to on-line version)

<http://www.ncl.ac.uk/regulations/programme/>

13 Criteria for admission

Entry qualifications

The course is only available to students on the NHS StR training programme

Details regarding essential requirements for entry onto the StR programme are outlined:

<http://www.londondeanery.ac.uk/var/recruitment/dental-recruitment/national-orthodontic-str-recruitment>

14 Support for Student Learning

The Student Services portal provides links to key services and other information and is available at: www.ncl.ac.uk/students/

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

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.

Help with academic writing is available from the Writing Development Centre.

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/Clinical Teaching Lead or Head of School may be consulted. Issues relating to the programme may be raised at the Curriculum Committee.

Pastoral support

All students are assigned a personal tutor in line with school policy.

In addition the University offers a range of support services through Student Wellbeing.

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.

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.

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

Course reviews

All courses are subject to review by questionnaires which are considered by the Curriculum Committee. Changes to, or the introduction of new, courses are considered at the Curriculum 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 Curriculum Committee. The Committee responds to these reports through Faculty Teaching and Learning Committee. External Examiner reports are shared with student representatives, through the Curriculum Committee.

Student evaluations

All courses, and the degree programme, are subject to review by annual student questionnaires. Informal student evaluation is also obtained at the Curriculum Committee.

Mechanisms for gaining student feedback

Feedback is channelled via the student representative on the Curriculum Committee.

Faculty and University Review Mechanisms

The programme is subject to the University's Internal Subject Review process.

Accreditation reports

The NHS Specialty Registrar Training Programme, which reflects the MSc in Orthodontics, is inspected by the Deanery. In addition, the NHS Registrars on the Training Programme are interviewed every year by representatives of the SAC.

16 Regulation of assessment

Progression is subject to the University's Masters Degree Progress Regulations, Taught and Research and Examination Conventions for Taught Masters Degrees.

MSc Examination

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

1. Part 1 (Examinations taken in May/June of year 2)

In course essays (the first 6 which are summative): Titles are given at completion of the appropriate tutorial. Students have 4 weeks to complete the essay

Two Written papers are set. The written papers each have four questions, to be answered in three hours.

The oral examination is a 20 minute *viva voce* examination.

4. Part 2 (taken in January of year 3)

Dissertations must be submitted by the last working day of January in the 3rd year.

1 viva-voce examination of the research element if required

5. Part 3 (taken in March/April of year 3)

Presentation of 4 completed clinical cases

1 Long unseen case viva

1 general viva-voce examination

Additionally, progress from year 1 to year 2 is based on:

Satisfactory completion of in course work undertaken in that year;

Submission and satisfactory review of dissertation literature review (submitted by the last working day of June of 1st year);

Satisfactory clinical progress

All students should satisfactorily complete ARCP to ensure progression through the course.

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. The degree may be awarded with Pass, Merit or Distinction, at the discretion of the Board of Examiners.

- Before presenting himself or herself for examination the candidate must have attended the prescribed programme of study, undertaken prior examinations (as required) and submitted all required course-work.
- A candidate who fails to satisfy the examiners in any part of the examination may be required by the examiners to produce evidence of further study as prescribed by the examiners before presenting himself or herself for re-examination. Candidates may be permitted by the Board of Examiners to be re-examined in the part which they have failed within a specified time on one occasion only.
- A candidate who fails to satisfy the examiners in Part II of the examination but who satisfies the examiners in Part I of the examination will be required by the Board of Examiners to submit the dissertation in a revised form on one occasion only, within six months from a date approved by the Board of Examiners. The candidate may also be required to resit the Part II oral examination.

Common Marking Scheme

MSc Grading system

The scheme, MSBU, 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 is appointed by the Faculty of Medical Science Learning, Teaching and Student Experience Committee (FLTSEC). 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 (in year 3)
- 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 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.