

Programme Title: MSc Dental Technology



Programme Specification (UG)

Awarding body / institution:	Queen Mary University of London
Teaching institution:	Queen Mary University of London
Name of award and field of study:	MSc Dental Technology
Name of interim award(s):	Pg Dip in Dental Technology (120 credits)
Duration of study / period of registration:	One Year Full-time
QMUL programme code / UCAS code(s):	PMSF-QMDENT1 PSDET A4Q5 FT
QAA Benchmark Group:	Dentistry
FHEQ Level of Award :	Level 7
Programme accredited by:	N/A
Date Programme Specification approved:	
Responsible School / Institute:	Institute of Dentistry

Schools / Institutes which will also be involved in teaching part of the programme:

Barts and The London School of Medicine and Dentistry

Collaborative institution(s) / organisation(s) involved in delivering the programme:

N/A

Programme outline

The School offers this first class taught postgraduate programme that provide you with a fantastic opportunity to engage with cutting edge research focused in bioengineering and materials science. The programme includes seven taught modules and a research project module. You will be taught elements of dental technology, CAD-CAM, implantology, occlusion, aesthetics and materials.

Teaching is carried out by our clinical consultants, chief technicians and dental/biomaterials experts in the Institute of Dentistry. You will gain an improved scientific base and research skills and uniquely are taught together with our clinical postgraduate students. You will interact with clinicians, attend implantology clinics and technical practice sessions and also attend presentation skills courses.

The full time campus programme is also open to undergraduate dental students who wish to (and are eligible to) intercalate a Masters degree into their BDS studies.

For these students there are entry criteria that differ from non-intercalating applicants - in addition to the equivalent English proficiency, intercalating students need to have:

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1. Successfully completed at least three years of the BDS or equivalent dental course (for clinically based masters this must include the equivalent of one year of patient based teaching (in hospital/dental practices/ clinics)).
2. Passed BDS year 3 or 4 exams immediately prior to entry at the first opportunity.
3. Demonstrate a clear and unequivocal interest in the field by written application and/or interview.
4. For students internal and external to QMUL it is confirmed that the beginning of the first term for the following year starts after all the QMUL Masters assessments are completed.

Aims of the programme

The general aims of the MSc Dental Technology offered in the Institute of Dentistry are:

- to provide full time opportunities for those wishing to develop their skills and understanding in oral health related sciences
- to develop the research and service careers of dentists and professionals complementary to dentistry

The general objectives of this taught postgraduate course are to provide students with the skills to:

- conduct literature searches, and evaluate original published research.
- design research protocols, execute a supervised research project, analyse and report findings supported by references.
- demonstrate a range of transferrable and specialised skills.

The specific course objectives are:

- to enable students to augment the current rather limited Dental Technology educational opportunities by providing M-level education (PG Diploma/MSc) and skills in Dental Technology and related disciplines;
- to also stimulate interest amongst dental technicians and related disciplines in advancing knowledge within this area of health care delivery,
- and to improve the scientific base and research skills of those involved in teaching Dental Technology or related disciplines.

What will you be expected to achieve?

On successful completion of the programme students will be able to:

Please note that the following information is only applicable to students who commenced their Level 4 studies in 2017/18, or 2018/19

In each year of undergraduate study, students are required to study modules to the value of at least 10 credits, which align to one or more of the following themes:

- networking
- multi- and inter-disciplinarity
- international perspectives
- enterprising perspectives.

These modules will be identified through the Module Directory, and / or by your School or Institute as your studies progress.

Academic Content:	
A 1	Advanced knowledge and understanding of oral health related sciences developed.
A 2	Competently conduct literature searches, and evaluate original published research. Design new research protocols, execute a supervised research project, analyse and report findings supported by references.
A 3	Improved scientific base and research understanding of those involved in teaching Dental Technology or related disciplines.
A 4	Understand the composition and properties of dental materials, including metals, glasses, ceramics and polymers.
A 5	Describe and analyse the processing techniques involved in producing dental restorations and their impact on dental material properties.
A 6	Discuss the occlusal concepts and their relationship to fixed and removable appliances.
A 7	Understand the use of articulators and face bows in the simulation of jaw movement.
A 8	Describe mounting and remounting techniques for use with the articulation of models.
A 9	Understand the theory and principals of osseointegration.
A 10	Discuss the biomechanical and biological aspects of implants.
A 11	Understand the concept of passive fit, torque and preload on screws.
A 12	Analyse screw and cement retained implant prostheses.
A 13	Discuss radiographic locating devices and splint construction and their relationship to the surgery involved in implantology.
A 14	Understand basic CAD for planning and restoration design.
A 15	Evaluate the effect of colour and light.
A 16	Understand Hue, Value and Chroma and their relationship to shade.
A 17	Evaluate ceramic building techniques.
A 18	Analyse the factors influencing tooth shape, surface texture and position and their effect on aesthetics.
A 19	Understand the limitations with achieving aesthetics.
A 20	Discuss the concept and composition of the dental team.

Disciplinary Skills - able to:	
B 1	Demonstratable a range of transferable and specialised technical/clinical skills.
B 2	Synthesis of technical /oral health care skills to organise and carry out laboratory work and organise a research project.

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B 3	Present and disseminate scientific information in multiple formats and work/communicate as an effective team.
B 4	Understand and apply the skills necessary to make effective presentations.
B 5	Describe the methodology necessary to plan an investigation, carry out literature searches and evaluate the research outcomes.
B 6	Discuss the importance and principals of statistics in medical/dental research.
B 7	Perform diagnostic waxing of teeth to change the occlusion, appearance and aesthetics of the teeth.
B 8	Perform denture set up/splint to control the occlusion, appearance and aesthetics. Perform ceramic building techniques.
B 9	Produce a shade map to record the colours and features of a tooth.
B 10	Perform accurate mounting/remounting and analysis of dental casts.
B 11	Construct dental appliances in liaison with clinicians.
B 12	Preparation of Implant models, splints and components.
B 13	Appraise and review dental literature in order to design and plan an experiment with an evidence-based approach.
B 14	Understand and prepare test samples for scientific evaluation.
B 15	Understand and carry out mechanical or chemical testing of dental materials.
B 16	Perform computing for word processing and the management and analysis of data.
B 17	Produce and deliver presentations and using visual aids.

Attributes:	
C 1	Synthesis of oral health care knowledge and skills to enhance Oral health care delivery.
C 2	The ability to critically review the literature and apply knowledge in a rigorous and professional manner.
C 3	Collaborate with diverse groups/teams in order promote interdisciplinary learning and knowledge dissemination.
C 4	Contribute to the synthesis of new materials /knowledge /innovation in the field of oral health care.

How will you learn?

The programme will begins with an induction programme organised in collaboration with the other taught postgraduate courses in the Institute of Dentistry. A termly timetable will be distributed before the start of each term. Students will receive a course reading list at the start of teaching. Each term's teaching focuses on particular topics or modules. Teaching is organised on a term system. Most teaching takes place in the first two terms, allowing the third term primarily for the project and revision and technical case. Students will take part in the Institute of Dentistry's Core Course (DIN7011 Fundamentals of Research Methods) for taught postgraduate students in the first term. Some modules are taught over 2 semesters in order that both practical exercises can be completed and clinics be attended to underpin knowledge.

In addition to the formal seminar programme, time is set aside for particular readings and reviews, discussion and problem solving for student projects, for practical exercises, and for feedback and evaluation of the course itself. The course aims to offer a high teacher/student ratio so that access to advice and ease of communication can be assured.

How will you be assessed?

Multiple assessment methods are used to test individual module learning outcomes. These include, but are not limited to:

Essay questions
Written papers
Technical case submission
Project thesis
Presentations
Oral Examinations.

How is the programme structured?

Please specify the structure of the programme diets for all variants of the programme (e.g. full-time, part-time - if applicable). The description should be sufficiently detailed to fully define the structure of the diet.

Modules are taken in order, Semester one modules are examined in January and Semester 2/full year modules are examined in May/June. The project and advanced technical practice modules are examined in Semester 3.

Academic Year of Study FT - Year 1

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester
Fundamentals of Research Methods	DIN7011	15	7	Compulsory	1	Semesters 1 & 2
Properties of Dental Materials I	DIN7008	15	7	Compulsory	1	Semester 1
Occlusion	DIN7004	30	7	Compulsory	1	Semesters 1 & 2
Introduction to Implantology	DIN7005	15	7	Compulsory	1	Semesters 1 & 2
Aesthetics	DIN7006	15	7	Compulsory	1	Semesters 1 & 2

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Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester
Properties of Dental Materials/ Processing Methods II	DIN7009	15	7	Compulsory	1	Semester 2
Advanced Technical Practice	DIN7007	15	7	Compulsory	1	Semesters 2 & 3
Level 7 Project Module	DIN7000	60	7	Core	1	Semesters 1-3

What are the entry requirements?

A Dental Technology Foundation degree, a minimum of two years post-initial qualification experience, and the ability to demonstrate advanced technical expertise in the field. Applicants may also be required to satisfy a practical trade test prescribed by SMD.

The minimum entry requirement is a 2.2 UK degree or the overseas equivalent in a relevant subject. Degree disciplines such as Medicine, Dentistry, Dental Technology, Chemistry, Biology or related subjects in the Sciences will be considered. A QM graduate certificate in dental technology awarded at the level of merit. A dental technology foundation degree (two years' post-initial qualification experience) may be considered.

If your first language is not English, a minimum IELTS score of 6.0 is required at the point of submission in order for an application to be considered, but an IELTS score of 6.5 overall with 6.0 in each of Writing, Listening, Reading and Speaking must be achieved before the course starts. Pre-sessional English course is available to improve the score by 0.5 if a conditional offer is given.

How will the quality of the programme be managed and enhanced? How do we listen to and act on your feedback?

The Student Voice Committee (SVC) provides a formal means of communication and discussion between schools/institutes and its students. The committee consists of student representatives from each year in the school/institute together with appropriate representation from staff within the school/institute. It is designed to respond to the needs of students, as well as act as a forum for discussing programme and module developments. The SVC meet regularly throughout the year.

Each school/institute operates a Learning and Teaching Committee, or equivalent, which advises the School/Institute Director of Taught Programmes on all matters relating to the delivery of taught programmes at school level including monitoring the application of relevant QM policies and reviewing all proposals for module and programme approval and amendment before submission to Taught Programmes Board. Student views are incorporated in the committee's work in a number of ways, such as through student membership, or consideration of student surveys.

The institute of Dentistry operates an Annual Programme Review of their taught undergraduate and postgraduate provision. APR is a continuous process of reflection and action planning which is owned by those responsible for programme delivery. Students' views are considered in this process through analysis of the PTES and module evaluations.

What academic support is available?

Students undergo an induction week at the start of the programme and access to online and library resources. The course utilises VLE resources to support learning and there is a QMplus site for students to access learning resources. The institute of dentistry also provides an Introduction to Study Skills resource which students can electronically access.

Module Leads and module teachers are available to offer academic support and research project supervisors provide support during the research project.

How inclusive is the programme for all students, including those with disabilities?

The Institute of Dentistry will provide the following:

Student Support

The Student Support Office (SSO) offers confidential, independent, and non-judgmental advice on personal, academic, and financial matters, including university procedures and student funding. The SSO is committed to ensuring students receive the support they need to succeed.

Disability and Dyslexia Service (DDS)

Queen Mary's Disability and Dyslexia Service (DDS) supports all students with disabilities, learning difficulties, or mental health conditions whether full-time, part-time, undergraduate, postgraduate, UK, or international students across all campuses. The DDS provides guidance and assistance in the following areas:

- Assessment for specific learning difficulties (e.g., dyslexia)
- Applying for Disabled Students' Allowance (DSA).
- Arranging DSA assessments of need
- Organizing special examination arrangements
- Access to loaned equipment (e.g., digital recorders)
- Specialist one-to-one study skills tuition
- Providing course materials in alternative formats
- Educational support workers (e.g., note-takers, readers)
- Specialist mentoring for students with mental health issues or Autism Spectrum Disorders

Support for Specific Learning Disabilities:

- Regular one-to-one study skills sessions with a dyslexia specialist
- Lecture notes provided in advance through QMPlus or email
- Q-Review lecture access, or permission to record non-Q-Review sessions (e.g., Clinical Skills Laboratory sessions on Phantom Heads/the use of Haptics)
- Specialist software with text-to-speech functionality to aid concentration and reduce fatigue

Support for Physical Disabilities:

- Speech recognition software for dictation
- Accessible lab and clinic environments, including ground-floor clinics, lifts to higher floors, and ramps

Inclusive Education

We are committed to providing all students with equal access to learning opportunities. Inclusivity ensures that all students are valued and supported, regardless of their background or circumstances, in line with the QMUL 2030 Strategy, which emphasizes "progressive, inclusive" teaching and curriculum design centred on the student experience.

To achieve these goals, inclusive pedagogical practices recognize the importance of diverse knowledge, identities, and ways of learning. This approach shifts the focus from student deficits to individual abilities and needs, ensuring that institutional practices do not alienate certain groups of students.

Programme-specific rules and facts

None.

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Links with employers, placement opportunities and transferable skills

Candidates are expected to take up full time teaching, research or industry positions after completion of the course.

After taking the course the candidate will have a good scientific base and transferable advanced technical and research skills which will be attractive to a future employer.

This mix of skills is very unique in the dental field and should create world opinion leaders in the field of dental technology and materials.

Programme Specification Approval

Person completing Programme Specification:

Mrs Lorraine Low, Quality & Assessments Officer

Person responsible for management of programme:

Prof Dr Michael Cattell

Date Programme Specification produced / amended by School / Institute Education Committee:

31 Oct 2024

Date Programme Specification approved by Taught Programmes Board: