

MSc Biomaterials

A Taught Masters Programme to provide cutting edge skills in Biomaterial Design, Manufacture, Characterization and Clinical Application

This MSc will enable you to increase knowledge and skills in the areas of specific materials design and testing for clinical application. Students will have the opportunity to take 120 taught credits with training in state of the art biomaterials design (ceramics, polymers, composites, hydrogels etc) with information relating to biological assessment of these materials (e.g. stem cell response, ISO / FDA regulations). Students also have the opportunity to gain 60 credits through a specific research project where they will gain analytical skills and data processing skills relevant to biomaterials design / use.

The programme aims to further students' knowledge base in biomaterial structure, manufacture and use and to develop students' critical analysis of biomaterial development and methods of application.

For an informal discussion about your options for study, call +44 (0)161 306 4826 or email pg-materials@manchester.ac.uk

This programme is currently subject to final approval by the University of Manchester.

The School of Materials at The University of Manchester is the largest school for Materials Engineering in Europe and has the greatest "Research Power" as determined by the 2008 RAE. It offers an unrivalled breadth of research in Materials Science.



MSc/PG Diploma Biomaterials

Who is this programme for?

Students from an engineering or medically related background who wish to pursue a career in biomaterials.

Entry Requirements

MSc - Upper second class honours degree or above (or equivalent) in bioengineering, materials science, mechanical engineering, biomedical science, medicine, dentistry or equivalent relevant subject.

Postgraduate Diploma and Certificate - At least a 2(ii) honours degree or equivalent in a relevant subject.

English language

TOEFL >570; IELTS >6.5 or equivalent

The University offers three, five and 10-week pre-session English language courses.

Careers

The medical device industry is estimated to be increasing at a rate of ~15% per year (Grammenou, 2006). As such it is important to provide scientists that are equipped with the knowledge and skills for the workplace to advance this important clinical need.

It is expected that the majority of graduates of this programme will go on to fill key posts as biomaterials scientists, managers and consultants in academia, industry and research and development.

How to apply

You can apply online now at:

www.manchester.ac.uk/postgraduate/howtoapply

Contact us

For further information, you can email or call us:

pg-materials@manchester.ac.uk

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Programme Content

The full MSc programme is made up of eight taught course units and a four month research project. The taught units are:

Research Methods course unit (15 credits); Lectures and workshops detailing transferable skills such as project management, time management, essay writing, oral presentation.

Master Class Course Unit (15 credits); Lectures specific to biomaterials design, characterization, manufacture and characterization. Lectures on use of stem cells with biomaterials and tissue engineering applications also included.

Structure & Mechanical Properties of Polymers (15 credits); Module covers masters level detail of polymer technology.

Clinical Applications of Biomaterials (15 credits); lectures series detailing current clinical applications of biomaterials. The module also covers a case study exercise.

Composite Materials (15 credits); students will learn about composite material design and implementation for biomaterials.

Tutorial course unit (15 credits); Orientation meetings. Preparative directed reading, private study and preparation of oral presentation. Pre-tutorial meeting. Tutorial. Journal study of 'Biomaterials'.

Teaching Seminars (15 credits); Seminars on state of the art biomaterial research presented by invited internationally renowned speakers.

Nanobiomaterials (15 credits); lecture series on nanobiomaterials manufacture, characterization and use as biomaterials.