Medical Innovation and Enterprise MSci

This unique MSci draws on world-leading expertise in medicine and business to create medical scientists who are not only familiar with the latest medical innovations (e.g. regenerative medicine, stem cell therapy, imaging and nanomedicine) but also know how to translate these advances into clinical realities through enterprise. The four-year MSci includes an industrial placement and research project in medical innovations.

Key information

Programme starts
September 2020

Location
London, Hampstead (Royal Free Hospital)

Degree benefits

Medical advances are transforming the way we diagnose and treat disease. To translate these opportunities into commercial realities that benefit patients, medical scientists need to be able to make connections between medical science, business and enterprise.

The programme’s emphasis on medical innovations and technology transfer will provide students with broad career prospects in biomedical science, biomedical business and technology transfer.

The degree is designed to inspire a spirit of innovation and enterprise; to create doers - capable of both recognising commercial opportunities in medical science innovation and exploiting them.

The programme offers the flexibility to join other applied medical science BSc programmes to learn about different aspects of medical science in years two and three (e.g. in sports medicine, nutrition or cancer) or to continue on the Medical Innovation and Enterprise degree.

Degree structure

In each year of your degree you will take a number of individual modules, normally valued at 15 or 30 credits, adding up to a total of 120 credits for the year. Modules are assessed in the academic year in which they are taken. The balance of compulsory and optional modules varies from programme to programme and year to year. A 30-credit module is considered equivalent to 15 credits in the European Credit Transfer System (ECTS).

Students can apply for a three-year BSc or a four-year MSci, whereby the fourth year will involve a business consultative work placement and medical research experience.

Based within the Faculty of Medical Sciences, your learning will be informed by world-leading translational research in stem cells, tissue engineering, biomaterials, 3D printing and medical devices.

The degree also draws on expertise within UCL Laws with regard to intellectual property, innovation law and medical regulation.

The UCL School of Management (based in Canary Wharf) provides business and enterprise expertise. Students will learn how to create companies and translate medical technologies into clinical realities. Topics covered will include business start-up, management structures and financial planning.

YEAR ONE

Core or compulsory module(s)
- Foundations in Health and Disease
- Cardiovascular and Respiratory Function in Health and Disease
- The Gut, Liver and Drug Metabolism
- Kidneys, Hormones and Fluid Balance
- Infection, Inflammation and Repair
- Musculoskeletal Systems in Health and Disease
- Data Interpretation and Evaluation of Science
- Medical Innovation & Enterprise I

YEAR TWO

Core or compulsory module(s)
- Molecular Basis of Disease
- Techniques in Molecular Medicine
- Understanding Management
- Research methodology
- Tissue Engineering and Regenerative Medicine (TERM)
- Medical Innovation & Enterprise II

Optional modules
- You will choose two of the following:
  - Pharmacology & Drug Action
  - Introduction to Clinical Trials
  - An Introduction to Applied Genomics
  - Cancer Biology & Therapeutics
  - Entrepreneurship Theory and Practice
  - Science and Ethics
  - Functional Anatomy & Medical Imaging
YEAR THREE

Core or compulsory module(s)

- Nanomedicine
- Stem Cell therapies
- Medical Innovation & Enterprise III (1)
- Research in Medical Innovation Science

Optional modules

- You will choose two from the following:
  - Practical Cell-material Interactions
  - Precision Cancer Medicine
  - Cancer Clinical Trials
  - Materials in Medicine
  - Entrepreneurship Finance
  - Global Entrepreneurship
  - Managerial Accounting for Decision-making
  - Strategic Project Management

FINAL YEAR

Core or compulsory module(s)

- Medical Innovation Business Consultancy
- Advanced research in medical innovation science

Optional modules

- You will choose three from the following:
  - Surgical Oncology
  - Applied Biomaterials
  - Building High Impact Ventures
  - Strategic Management of Entrepreneurial Ventures
  - Biomechanics for assistive technologies
  - Assistive Technology Devices & Rehabilitation Robotics
  - Transplantation Science
  - Inclusive Design and Human-Machine Interfaces

Your learning

The degree ethos is to teach by doing, and to develop a deep critical understanding together with excellent communication skills. Online teaching systems allows you to learn at your own pace and explore topics in greater depth. Tutorial-based problem-solving and small-group learning will encourage creativity. Hands-on practicals and industry exposure will support your understanding and enable you to relate learning to "real-life" scenarios.

Placement

Students will apply their critical knowledge of medical innovations and technology transfer, to perform a consultancy project (2-3 months) in a work placement within the medical innovation technology transfer (or related) industry. Students will benefit from the experience of professional practice, grow their professional network and improve their employability. The scheme will benefit from the extensive innovation and enterprise network within UCL.

Assessment

Assessment methods include: online and written examinations; critical reviews; poster presentations; practical skills assessment; and online participation. In year three you will be required to write a business plan for your medical innovation company (following modules in years one and two to support this) and a research project dissertation.

Your career

The programme encourages creativity, enterprise and outstanding communication skills.

Students will gain a competitive advantage if considering future careers in biopharmaceuticals, biomedical research and medical device companies, technology transfer, company start-ups/university spin-out
Entry requirements

A LEVELS

Standard Offer: AAB. Biology and either Chemistry, Mathematics or Physics required.

Contextual Offer: BBB. Biology and either Chemistry, Mathematics or Physics required.

GCSE

English Language and Mathematics at grade B or 6. For UK-based students, a grade C or 5 or equivalent in a foreign language (other than Ancient Greek, Biblical Hebrew or Latin) is required. UCL provides opportunities to meet the foreign language requirement following enrolment, further details at: www.ucl.ac.uk/ug-reqs

IB DIPLOMA

Standard Offer: 36 points. A total of 17 points in three higher level subjects, including Biology and either Chemistry, Mathematics or Physics, with no score below 5.

Contextual Offer: 32 points. A total of 15 points in three higher level subjects, including Biology and either Chemistry, Mathematics or Physics, with no score below 5.

CONTEXTUAL OFFERS – ACCESS UCL SCHEME

As part of our commitment to increasing participation from underrepresented groups, students may be eligible for a contextual offer as part of the Access UCL scheme. For more information see www.ucl.ac.uk/prospectus

OTHER QUALIFICATIONS

UCL considers a wide range of UK and international qualifications for entry into its undergraduate programmes. Full details are given at: www.ucl.ac.uk/otherquals

UNDERGRADUATE PREPARATORY CERTIFICATES (International foundation courses)

UCL Undergraduate Preparatory Certificates (UPCs) are intensive one-year foundation courses for international students of high academic potential who are aiming to gain access to undergraduate degree programmes at UCL and other top UK universities.

Typical UPC students will be high achievers in a 12-year school system which does not meet the standard required for direct entry to UCL.

For more information see: www.ucl.ac.uk/upc.

Tuition Fees

The fees indicated are for undergraduate entry in the 2020/21 academic year. The UK/EU fees shown are for the first year of the programme at UCL only. Fees for future years may be subject to an inflationary increase. The Overseas fees shown are the fees that will be charged to 2020/21 entrants for each year of study on the programme, unless otherwise indicated below.

UK & EU: £9,250 (2020/21)

Overseas: £26,490 (2020/21)

Full details of UCL’s tuition fees, tuition fee policy and potential increases to fees can be found on the UCL Students website.

Additional costs

The core textbooks for all modules are available in UCL Libraries (including the Royal Free library), and journal articles in your reading lists are available to download electronically. Some students may wish to purchase their own text books or print course documents and if you would like to do this, then we suggest allowing approximately £200 per year for this. In addition students will be required to pay for their own travel costs to placements or project locations, depending upon he project/placement that they choose.

Funding

Various funding options are available, including student loans, scholarships and bursaries. UK students whose household income falls below a certain level may also be eligible for a non-repayable bursary or for certain scholarships. Please see the Fees and funding pages for more details.

Contact

Dr Gavin Jell

Email: g.jell@ucl.ac.uk

Telephone: 02074314934

Department: Division of Surgery and Interventional Science

Brexit

For up-to-date information relating to specific key questions following the UK’s decision to leave the EU, please refer to: www.ucl.ac.uk/brexit

Disclaimer

This information is for guidance only. It should not be construed as advice nor relied upon and does not form part of any contract. For more information on UCL’s degree programmes please see the UCL Undergraduate Prospectus at www.ucl.ac.uk/prospectus