

RCSI, UNIVERSITY OF MEDICINE AND HEALTH SCIENCES

BSc in ADVANCED THERAPEUTIC TECHNOLOGIES

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DR. BEN RYAN
Programme Director



PROF. JUDITH HARMEY
Deputy Programme Director

PURSUE A CAREER IN THE EMERGING FIELD OF ADVANCED THERAPEUTIC TECHNOLOGIES

We are delighted to present the prospectus for our new Bachelor of Science degree programme in Advanced Therapeutic Technologies. This new and innovative honours undergraduate degree programme has been designed to respond to the evolving healthcare landscape and to develop innovators fit to tackle the most pressing healthcare related scientific questions of our time. This exciting new programme, within the School of Pharmacy and Biomolecular Sciences, has been supported by the Higher Education Authority under the Human Capital Initiative.

The ever-changing healthcare landscape has seen a major shift as it fuses digital technology with traditional science, leading to an increased focus on the development of novel therapeutic technologies. Designed from a future focused perspective, students will experience an immersive and transformative educational journey using the latest developments in education delivery. The curriculum focuses on the most recent scientific discoveries and technologies and has been developed in collaboration with national and multinational biopharma companies to ensure it addresses the current and future skills needs of the BioPharma and related industries. An 8-month work placement in Year 3 is a key element of the programme and enables students to build their transversal competencies, in areas such as collaboration, professionalism and leadership as well as enabling the establishment of a professional network. The curriculum's dual focus on developing both technical competence and professional attributes facilitates the students' Day 1 readiness for the workplace upon graduation.

Upon completion of the 4-year programme, students will be awarded a level 8 NFQ BSc (Hons) degree in Advanced Therapeutic Technologies, and be equipped with a combination of core scientific knowledge, laboratory and research skills as well as workplace relevant transversal competencies to ensure they are well placed to succeed within their future careers.

We are excited to share this innovative new programme with you and look forward to welcoming you on campus at RCSI in the heart of Dublin city centre in September.

Dr. Ben Ryan
Programme Director, School of Pharmacy & Biomolecular Sciences

Prof. Judith Harmey
Deputy Programme Director, School of Pharmacy & Biomolecular Sciences



[Click here for more information](#)

[Advanced Therapeutic Technologies](#)

NFO: **Level 8**

AWARD: **BSc in Advanced Therapeutic Technologies (Hons) (NUI & RCSI)**

AWARDING BODY:
National University of Ireland

DURATION: **4 years**

CAO CODE: **RC006**

PROGRAMME OVERVIEW

The RCSI, School of Pharmacy and Biomolecular Sciences now invites applications for its BSc programme in Advanced Therapeutic Technologies. The (Bio) pharmaceutical and health sector is facing a new era of opportunity as it incorporates healthcare innovations and technologies in areas such as genomics, precision medicines, big data and connected health. This programme

is a unique educational offering, equipping students with the necessary knowledge and skills to pursue a career in the emerging field of transformative therapeutic technologies and a range of other career paths.

The RCSI BSc in Advanced Therapeutic Technologies has been designed specifically to equip students with extensive, future focused scientific knowledge & technical skills in addition to transversal competencies to address professional development, current and future healthcare innovation and technology needs. The curriculum draws upon cutting edge developments across scientific disciplines, including Genetics & Genomics, Computational Biology, Data Analytics, Drug Delivery, Pharmacology, Immunology and Connected Health.

The programme is designed to ensure that graduates can apply the knowledge and skills they will have developed to design, create and implement innovative solutions to complex health-care problems

Employability is embedded throughout the programme and students develop transversal skills and competencies. The programme will incorporate active learning techniques with a mix of team based and individual-focused projects and a significant practical focus with a view to ensuring workplace readiness.



This project has been supported by the Higher Education Authority under the Human Capital Initiative, Pillar 3. Grant agreement: 17796884 'Enabling Future Pharma'.



INDUSTRY PLACEMENT

RCSI has partnered with a strong consortium of enterprise partners to provide their expertise and support in the development of the BSc in Advanced Therapeutic Technologies to meet critical skills needs.

In year 3 of the programme, students will demonstrate and apply their technical knowledge and the transversal skills and competencies gained in a workplace setting with the 8-month Situated Learning module, that has been developed in conjunction with industry partners.

RCSI enterprise partners range from spin-outs and SMEs to Multinationals with expertise across a broad range of innovative healthcare technologies, including advanced therapies, genomics, precision medicine, AI, big data and connected health underpinned by innovation and leadership.

BSc in ADVANCED THERAPEUTIC TECHNOLOGIES

- 4 year BSc (Hons) degree - School leavers/ Mature students
- New innovative future focused programme to **address knowledge and skills gaps in the healthcare and bio-pharmaceutical industry**
- Unique educational offering, equipping students with the knowledge and skills to pursue a career in the **emerging field of transformative therapeutic technologies**
- Develop leaders fit to tackle healthcare scientific questions
- Delivered in a student centric manner using the latest developments in education delivery

WHY STUDY ADVANCED THERAPEUTIC TECHNOLOGIES WITH RCSI

- Focused on latest scientific discoveries
- Gain systematic understanding & critical awareness of **key emerging therapeutic technologies**
- **Eight month industry placement**
- Focused on **Career readiness**
- Developed in **collaboration with national and multinational biopharma companies**
- Equips students with a combination of core knowledge, practical and research skills
- Future-focused scientific knowledge & technical skills along with highly developed professional development competencies including Project Management, Leadership and Management and Enterprise & Innovation.
- Graduates can apply for MSc and PhD opportunities



This innovative programme offers a unique opportunity to develop knowledge and technical competency in disciplines which will lead to the healthcare innovations of the future.



26

Our state of the art **26 YORK STREET** building has multiple learning, study and recreational environments spread over 10 floors.



+21,000

GLOBAL community of **ALUMNI**
WORKING WORLDWIDE



x2

Research impact is **DOUBLE**
THE WORLD AVERAGE

BSc ATT CURRICULUM

The **BSc in Advanced Therapeutic Technologies Programme** will commence in **September 2022**. The curriculum is 4 years and modules are allocated to semesters each year. The curriculum will be delivered using a variety of teaching modalities including face-to-face lectures, workshops/tutorials, small group teaching/teamwork, laboratory practicals, workshops, research and group projects, online activities and E-learning packages underpinned by an integrated IT platform.

YEAR 1

Module	Semester	ECTS
The cellular basis of Life	1	5
Health - Body and Function	1	5
Fundamentals of Medicinal and Pharmaceutical Chemistry	1	5
Medicines - Pharmaceutics 1	1	5
Foundations of Data Analytics	1	5
The Scientist: Professional Formation 1	1	5
Fundamentals of Pharmacology & Immunology	2	5
Fundamentals of Microbiology and Infection	2	5
Medicinal and Pharmaceutical Chemistry	2	5
Medicines – Pharmaceutics 2	2	5
Gastrointestinal Health - Medicines and Patient care	2	5
The Scientist: Professional Formation 2	2	5

YEAR 2

Human Genetics & Genomics	1	10
Pharmacology & Theranostics	1	10
Computational Biology: 1	1	5
Fundamentals of Project Management	1	5
Computational Biology: 2	2	5
Regulatory Science	2	5
Biologic & Immuno-therapeutics	2	10
Medicines – Drug Life Cycle	2	10

YEAR 3

Biopharmaceutical Manufacturing	1	10
Advanced Genetics & Cell Biology	1	10
Enterprise & Innovation	1	5
The Scientist: Professional Formation 3	1	5
Situated Learning: Developing in the workplace	2	60

YEAR 4

Frontiers of Therapeutic Technologies	1	10
Computational Biology: 3	1	5
Connected Health	1	10
Leadership & Management	1	5
Scientific Research Skills	2	30

CAREER OPPORTUNITIES

The BSc in Advanced Therapeutic Technologies at RCSI is a unique educational offering, filling essential and emerging skills gaps in the life sciences sector in the area of future transformative therapeutic technologies.

The programme has been designed to ensure workplace readiness and employability giving graduates increased systematic understanding and critical awareness of key emerging therapeutic technologies.

Our programme will have a dual focus: enhancement of technological capabilities and the development of transversal skills including teamwork, communication, cultural awareness, innovation and leadership.

This combination of skill sets will aim to drive creativity and flexibility in modern workforce.

GRADUATES ARE IN A POSITION TO APPLY FOR ROLES IN:

- Pharmaceutical Industry
- Regulatory Affairs
- Medical Writing and Communications
- Clinical Trials
- Patient Advocacy
- Scientific Research
- Management consultancy
- Other careers requiring a primary degree education (e.g. Management consultancy, Diplomatic Service).

In addition, upon completion of this undergraduate programme, interested graduates can apply for the Masters in Technologies and Analytics in Precision Medicine or higher degrees by research – (MSc and PhD).

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For more details on our BSc Advanced Therapeutic Technologies Programme, please visit:

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