



## **Job Description**

### **Assistant Professor in Biotechnology School of Biotechnology Faculty of Science & Health Fixed Term Three Year Contract**

#### **Introduction**

Dublin City University (DCU) is a young, ambitious and vibrant university, with a mission 'to transform lives and societies through education, research, innovation and engagement'. Known as Ireland's 'University of Enterprise', DCU is a values-based institution, committed to the delivery of impact for the public good. DCU was named Sunday Times Irish University of the Year 2021.

DCU is based on three academic campuses in the Glasnevin-Drumcondra region of north Dublin. More than 18,000 students are enrolled across five faculties – Science and Health, DCU Business School, Computing and Engineering, Humanities and Social Sciences and DCU Institute of Education.

DCU is committed to excellence across all its activities. This is demonstrated by its world-class research initiatives, its cutting-edge approach to teaching and learning, its focus on delivering a transformative student experience, and its positive social and economic impact. The university continues to develop innovative programmes in collaboration with industry, such as the DCU Futures suite of degrees, which are designed to equip graduates with the skills and knowledge required in a rapidly evolving economy.

DCU's pursuit of excellence has led to its current ranking among the top 2% of universities globally. It is also one of the world's Top Young Universities (QS Top 100 Under 50, Times Higher Top 150 Under 100). In the Times Higher Education University Impact Rankings 2021, DCU ranked 23rd in the world for its approach to widening participation in higher education and its ongoing commitment to eradicating poverty, while it ranks 38th globally for its work in reducing inequality and 89th globally for gender equality.

The university is ranked 23rd in the world and first in Ireland for its graduate employment rate, according to the 2020 QS Graduate Employability Rankings. Over the past decade, DCU has been the leading Irish university in the area of technology transfer, as reflected by licensing of intellectual property.

#### **School of Biotechnology**

The School of Biotechnology ([www.dcu.ie/biotechnology](http://www.dcu.ie/biotechnology)) is the academic unit that leads biotechnology and bioprocessing education and research within the Faculty of Science & Health at Dublin City University (DCU). The school delivers both undergraduate BSc (e.g. Biotechnology, Environmental Science & Technology) and taught MSc postgraduate degree programmes (e.g. Bioprocessing Engineering) in addition to the education and training of research MSc and PhD students under its structured PhD programme, BioTranslate. It is an active centre of basic, applied and multi-disciplinary research, supporting clusters of intersecting research themes which link closely with the School's teaching programs. The School has recently invested in upgrading its Bioprocessing Engineering infrastructure and is now home to the Microbial Bioprocessing Facility (MBF), a facility that is equipped with the most modern pilot scale bioreactors in Ireland. Fully automated bioreactors range in size from 3.7 L to 150 L. All Bioprocess Engineering laboratory modules are

taught within this facility which is rapidly becoming the “go-to” location for bioprocess engineering teaching, industrial training in process analytical technology (PAT), industrial product development and brewing.

### **Relationships**

Reporting to the Head of School, the appointee will work closely with other colleagues, the Teaching Convenor/Associate Dean of Teaching and Learning and industry partners. Building positive relationships with professional support staff and technical and pedagogy specialists and engagement with key stakeholders within and outside of DCU is an important part of this role.

### **The Role**

The appointee will be expected to support the school, especially the bioprocess engineering team, as the school enters a period of expansion in its programmes. Within this role, the following will be prioritised:

- Teaching existing lecture modules in transport processes, bioreaction engineering, and downstream processing, especially membrane separations
- Contributing to the teaching of bioprocess engineering laboratory modules in the Microbial Bioprocessing Facility
- Working with the bioprocess engineering team to the development of new modules for the new BSc in Bioprocessing
- Undergoing training in novel pedagogies such as Challenge Based Learning

The role includes teaching, supervision of laboratory sessions, student mentoring and supervision of taught projects and research.

### **Duties & Responsibilities**

To support the new HCI program, the BSc in Bioprocessing, the School now plans to make an appointment at Assistant Professor level. The primary role of the appointee will be to assist with the delivery of the new BSc in Bioprocessing by teaching the following modules:

BE223 Transport Processes (0.5)  
BE322 Bioreactor Design and Operation (0.5)  
BE321 Downstream Processing (0.5)  
BE420 Bioreaction Engineering (1.5)  
BE371 Bioprocessing laboratory (1.5)

The individual appointed will be expected to support their on campus teaching with online materials and will in some instances will be required to deliver a substantial portion of these modules online. Furthermore, as these modules are taught in common with the BSc in Bioprocessing, the appointee may be required to adopt novel pedagogies such as Challenge Based Learning in the delivery of these modules.

Specifically, the successful individual will be required to (inter alia):

### **Teaching:**

Prepare, deliver and assess a range of core subjects in a manner consistent with DCU’s high academic standards and in a hybrid environment which involves campus and elements of remote delivery. Teaching extends to supporting innovation in curricula development. Typical activities include

- Contributing to the design and development of new programmes.
- Developing and delivering new or reconceptualised modules and resources.

- Designing and assessing examinations and other types of coursework.
- Using a wide range of teaching and assessment methodologies which foster a deep approach to learning and equip students with the skills and attributes needed to be lifelong learners including challenge based learning and concentrated and immersive learning experiences.
- Co-designing with other academics and industry partners a suite of tools and initiatives that support the transversal skills pathway and embedding transversal skills development, diagnostics and assessments into new and existing programmes
- Supervision of laboratory sessions, and student mentoring.
- Proactive engagement with the renewal of existing courses and programmes.
- Engagement with professional development for teaching particularly in that related to the approaches embedded in the project.

#### **Research:**

The successful individual will be expected to sustain and conduct research, engage in scholarship of quality and substance, generate research income, supervise postgraduate students and publish to the highest international standard both individually and, where appropriate, in association with colleagues in DCU and elsewhere. The appointee will be expected to have clearly articulated research interests and research profile development plans that support the school's current research priorities, and which will underpin senior modules and projects related to the new degree programme(s) or specialism.

#### **Contribution to the school, Faculty, university and profession**

Examples include:

- Engagement with planning, quality review and improvement processes, and external programme accreditations.
- Involvement with appropriate professional bodies and associated initiatives.
- Development and delivery of the international activities of the School including international travel to do so.
- Adoption of some administrative functions related to the activities of the School, the Faculty, and the wider University. Such duties will be defined by the Head of School and may include some of the following: degree programme coordination; participation in committees; visits to students on industrial placement within the DCU INTRA programme; student recruitment.

#### **Applicant Requirements**

- Applicants must hold an honours degree in biochemical/bioprocess engineering, biotechnology or a related discipline, as well as a PhD in Chemical/Bioprocess Engineering with a track record of research in microbial bioprocessing that includes corresponding and senior/first author publications and/or significant experience of working in an industrial microbial bioprocessing environment.
- A flexible, growth mindset with a strong willingness to teach outside their specialist area.
- Familiarity with digital learning tools and strong computational skills.
- Experience in high quality university-level teaching (Level 8 and/or 9).
- Experience of module design in both theory and laboratory contexts is highly desirable.
- Have a current research profile that demonstrates a pathway to future research independence such as Fellowship, Co-Investigator, Collaborator and/or Principal Investigator grant applications to date.
- Have excellent interpersonal and communication skills consistent with the highest quality of teaching and learning, along with evidence of successful teamwork and a collegial approach.
- Ensure objectives are met across the lifecycle of the project, including the developing, delivering and monitoring of academic programmes / microcredentials / specific projects.
- Provide leadership, guidance and identified points of escalation for issues and challenges.
- Provide expert advice and support to the programme / projects administration enable effective decision making and achievement of outcomes.

- Deliver strategic change with peers and senior internal staff through a combination of project and business-as-usual activity; balancing competing priorities within resources.
- Support governance and programme/project committee requirements by working closely with steering committees, programme management team and/or external institution leads.
- Provide reporting to the programme management team and steering committees, engaging with financial management and oversight of the project in line with HCI terms and conditions and participate in institutional or project audits