



JOB DESCRIPTION

**Assistant Professor in Chemistry with Artificial Intelligence / Machine Learning
School of Chemical Sciences
Faculty of Science and Health
Fixed Term Three Year Contract**

Dublin City University

Dublin City University (DCU) is a leading innovative European University. It is proud to be one of the world's leading Young Universities and is among the world's top 2% globally. DCU is known as Ireland's University of Impact, with a mission to 'transform lives and societies' and focuses on addressing global challenges in collaboration with key national and international partners and stakeholders.

DCU has over 20,000 students in five faculties spread across three academic campuses in the Glasnevin-Drumcondra area of North Dublin. Thanks to its innovative approach to teaching and learning, the University offers a 'transformative student experience' that helps to develop highly sought-after graduates. DCU is currently No. 1 in Ireland for Graduate Employment Rate, and for graduate income (CSO).

DCU is a research-intensive University and is home to a number of SFI-funded Research Centres. The University participates in a range of European and international research partnerships. DCU is also the leading Irish university in the area of technology transfer as reflected by licensing of intellectual property.

As a 'People First' institution, DCU is committed to Equality, Diversity and Inclusion - a University that helps staff and students to thrive. The University is a leader in terms of its work to increase access to education, and is placed in the world's Top 10 for reducing inequalities in the Times Higher Education Impact Rankings.

Overview of the department

The School of Chemical Sciences, is one of Ireland's most progressive and highest achieving Schools with outstanding facilities, housed within a modern and dynamic city campus. Our goal is to develop graduates with the ability to critically evaluate, and then to solve, chemical and pharmaceutical problems, preparing the highest quality graduates capable of meeting the challenges of modern industry and research. The School is highly successful at attracting large scale research funding, with our researchers having roles within nationally significant university/industry collaborative initiatives

and European funded Integrated Training Networks. The School of Chemical Sciences is one of the leading academic schools within DCU. Our programmes include General Entry into Chemistry (CGE), the School's two core undergraduate programmes, namely the BSc in Analytical Science and the BSc in Chemical and Pharmaceutical Sciences, as well as the BSc in Environmental Science & Technology and BSc in Science Education. The School is currently expanding the number of undergraduate degree courses to include Chemistry with Artificial Intelligence (accessed through CGE).

Role Profile

The position will report to the Head of School and work closely with the programme lead for Chemistry with Artificial Intelligence, 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 appointee will be expected to support the School in implementing an innovative curriculum project, specifically

- developing and delivering a new bachelors programme/specialism in Chemistry with Artificial Intelligence, ensuring an industry engaged, research-led approach, integration of challenge based learning, digital tools and hybrid delivery.
- broader implementation of teaching approaches into other target programmes in the school, and
- engaging with university-wide elements of the initiative including cross faculty cooperation, project evaluation and reporting.

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

Duties and Responsibilities

The duties and responsibilities of the position include, but are not restricted to, the following:

Teaching and Learning

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 and Scholarship

He/she 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 collaboration 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.

Service and Contribution to the University and Society

- 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.

Qualifications and Experience

Essential criteria:

- Applicants must hold an honours degree in a relevant discipline and should be qualified to a post-graduate level with a PhD specialism in chemistry with machine learning and/or artificial intelligence, or a related discipline.
- The successful candidates should ideally have a minimum of three years' relevant postdoctoral experience related to chemistry with machine learning and/or artificial intelligence.
- Applicants must have demonstrated teaching experience at undergraduate and/or postgraduate level, ideally including experience in using innovative pedagogies and/or assessments in the area of chemistry with machine learning and/or artificial intelligence.
- Candidates should demonstrate excellent interpersonal and communication skills consistent with the highest quality of teaching and learning, together with evidence of successful teamwork and a collegial approach.

Ideally the applicants would have:

- Strong research credentials and publication record, particularly in one or more of the following research areas: chemistry with machine learning, artificial intelligence.

- Experience in research collaboration and engagement with Irish, European, and international companies.
- Demonstrated potential to establish an independent research programme and attract research funding from competitive research funding schemes and/or industry.