School of Chemistry Course Comparison

PROGRAMMES	BSc Chemistry	BSc Chemical Physics	BSc Chemistry with Forensic Science	BSc Chemistry of Pharmaceutical Compounds
Overall	Are you interested in studying the "central science" to understand the world around you? Chemistry connects other sciences such as biology, physics, geology and environmental science together. This is a broad-based course which covers all areas of chemistry, with excellent preparation for careers in the chemical industry.	Do you like chemistry and physics? Are you curious about how and why the world works at a molecular level? This course (the only one in Ireland and accredited by the Institute of Physics) will help you understand the structure, energies and transformations of matter and its dynamics at a molecular level.	Do you want to be a crime scene investigator, collecting and analysing evidence and presenting your findings in court? Do you prefer to work in the pharmaceutical industry as an analyst for medicinal products? This course offers multiple and varying career opportunities after graduation.	Do you like chemistry and biology? Are you interested in a career in the pharmaceutical industry focussing on the design, manufacture and mode of action of medicines? The centrepiece of this course is an organised work placement in the pharmaceutical industry.
Entry	CK406 or CK402	CK406 or CK408	CK406 or CK402	CK402
Intake	60	10	20	20
Schools/Departments involved	Chemistry, Physics, Maths, Biochemistry, Microbiology	Chemistry, Physics, Maths, Applied Maths	Chemistry, Biochemistry, Microbiology, Applied Psychology, Pharmacology, Pathology	Chemistry, Biochemistry, Pharmacology, Microbiology, Physiology
Duration	4 years	4 years	4 years	4 years
Subject areas	Inorganic, organic, analytical & physical chemistry. Theme subjects – materials, pharmaceutical and environmental. Final Year Research Project.	Chemical physics, physics, physical, inorganic, analytical, organic, environmental chemistry, maths, computer science. Final Year Research Project.	Analytical, inorganic, physical, organic & forensic science, biochemistry, pathology, psychology & toxicology. Final Year Research Project.	Organic, analytical, inorganic, physical & pharmaceutical chemistry, biochemistry, physiology, pharmacology & toxicology. Final Year Research Project.
Differentiating modules	This is a broad-based programme which provides insight across the diverse aspects of chemistry including Advanced Nano Materials; Advanced Pharmaceutical Chemistry; Atmospheric Chemistry; Scientific Communication and Information Literacy Skills	Materials chemistry; Environmental chemistry; Advanced Nano Materials; Atmospheric Chemistry and Air Pollution; Optics; Quantum Mechanics; Lasers and Photonics; Atomic and Molecular, Computational Physics	Forensic Science; Toxicology; Forensic Analysis; Forensic Psychology; Forensic Genetics and Molecular Biology; Forensic and Legal Medicine	Pharmaceutical Chemistry; Drug Design and Development; Physical Organic Chemistry; Physiology; Structural Biochemistry; Toxicology; Chemotherapy and Pharmacology of Inflammation; Protein Science; Neuropharmacology
Work Placement	Optional; Study abroad opportunity in 3rd year.	No	No	Embedded – 5 months duration
Further Studies (but not limited to)	All of these BSc programmes can lead to a wide range of postgraduate studies: NFQ Lv10: PhD in a chemistry related discipline; NFQ Lv9: MSc Research Masters or MRes (Master of Research) in a chemistry related discipline; MSc (taught) in Analytical Chemistry, Analysis of Pharmaceutical Compounds, Environmental Analytical Chemistry, Biotechnology; PG Diploma Analytical Chemistry, Bioanalytical, Sustainable Energy, Pharmaceutical Technology.			
Career Opportunities (but not limited to)	Chemical industry and access into the materials, pharmaceutical and environmental areas of work.	Chemical industry; basic science; biophysics; computer science and big data; energy; environmental sciences; government; technology.	Chemical and forensic sciences; analytical chemist; crime scene investigator; laboratory technician; QC analyst.	Pharmaceutical industry; drug discovery research; new process development and support.
Sample Companies seeking graduates	INTEL, Boston Scientific, Pfizer, Eli Lilly, Thermo Fisher, MSD, Janssen, Abbvie, GSK, Hovione, GE Healthcare, BioMarin, Novartis, Eurofins, Stryker, Viatris, Analog Devices, Tyndall, Microchip Technology, The State Laboratory, Sanofi, Regeneron, Abbott, Environmental Protection Agency			
Sample Salary Guide (median guide from Morgan McKinley)	Salaries for chemists typically start around €35,000 - €40,000 Typical salaries over €55,000 with 5 years career experience Process chemist: 0-3 years €45,000 - €50,000, 3-5 years €50,000 - €55,000, 5+ years: €55,000 - €65,000 QC Analyst: 0-3 years €35,000 - €42,000, 3-5 years €42,000 - €50,000, 5+ years: €50,000 - €60,000			