



Chemistry at Durham University

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Housekeeping

- ❖ No fire alarms are planned – staff will guide you to fire exits
- ❖ We ask you to respect the personal space of others
- ❖ If you wish to wear a face covering then we support your personal choice
- ❖ Organisation
 - ❖ Karen Johnston, Russell Taylor, Nicola Bramfitt
 - ❖ Team TF, Academic Staff, Learning and Teaching Team



How to pick a UK Chemistry degree?

- ❖ Entry standards, grades and subjects
- ❖ “Straight chemistry” – How much choice in the course?
- ❖ Medicinal chemistry, analytical chemistry
- ❖ Chemistry with another subject (75% chemistry)
- ❖ Chemistry and another subject (50% chemistry)

- ❖ Placement
 - ❖ Industry, overseas, credit, non credit, 3rd / 4th year

- ❖ Will you enjoy living (t)here for 3 or 4 years?
- ❖ Employability



Why Chemistry at Durham University?

- ❖ Top ranked research
- ❖ Research-informed curriculum taught by world-leading academics

- ❖ P2i – Ultra-thin barrier coatings on electronic devices
- ❖ Spin Out company
- ❖ Prof Jas Pal Badyal
 - ❖ 2nd year lecture course on Surface Chemistry



Currently Welsh Government Chief Scientific Officer



Environment

- ❖ Academically rigorous and challenging course
- ❖ Friendly and approachable staff with an open-door policy
- ❖ Supportive collegiate environment in a beautiful UNESCO World Heritage Site
- ❖ Extra-curricular opportunities
 - ❖ Over 75% participation rate in 54 sports
 - ❖ 3rd in British University & Colleges Sport (BUCS) points table (1st in team sport)
 - ❖ 27 Student-run Theatre companies
 - ❖ 80+ Student music societies
 - ❖ Over 80 student volunteering projects



Why Chemistry at Durham University? What is our USP?

- ❖ Elective modules / choice in all Years
- ❖ A Core of Chemistry with opportunity to specialise at the interfaces with physics, mathematics, biosciences, materials
- ❖ Fourth Year project in Industry, Overseas or Durham
- ❖ A collegiate university



Chemistry in four flavours:



- ❖ 3 year B.Sc. Chemistry (F100) 30%
 - ❖ 4 year M.Chem. Chemistry (F105) 40%
 - ❖ 4 year M.Chem. Chemistry with an industrial project (F111) 15%
 - ❖ 4 year M.Chem. Chemistry with an overseas project (F102) 15%
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- ❖ Transfer from B.Sc. to M.Chem. up to end of year 2
 - ❖ Choice between M.Chem. courses can be made in year 3
 - ❖ First two years are common for B.Sc. / M.Chem.
 - ❖ You can change degree on arrival

Which course?

- ❖ There are plenty of opportunities to change course
- ❖ MChem is recommended for:
 - ❖ a career in industrial research and development
 - ❖ a PhD following your first degree
 - ❖ school teaching (following a PGCE)
 - ❖ a career as a Chemist
- ❖ The BSc degree is recommended for:
 - ❖ jobs requiring literacy and numeracy (banking, accounting)
 - ❖ science based management or marketing



Chemistry in Natural Sciences

- ❖ 4 year MSci in Natural Sciences (UCAS code FGC0)
 - ❖ MSci Biology & Chemistry
 - ❖ MSci Chemistry and Physics
 - ❖ MSci Chemistry and Mathematics
- ❖ 3 year BSc Chemistry and another subject (UCAS code CFG0)
 - ❖ Biology, Geology, Mathematics, Physics
- ❖ 3 or 4 year broad science degree (UCAS code CFG0, FGC0)
 - ❖ Mix Chemistry with one or two subjects



First year Chemistry: Breadth

- ❖ **Core Chemistry 1 (30 credits, 4 lectures, 1 tutorial per week)**
 - ❖ Inorganic, Organic and Physical Chemistry
- ❖ **Mathematical & Experimental Tools required in Chemistry (20 credits, 2 lectures, problem class)**
 - ❖ Tools for Chemistry, Physics & Biology for Chemists, Separation Methods
- ❖ **Introduction to Materials Chemistry (10 credits, 1 lecture, problem classes)**
 - ❖ Polymers, Ionic solids
- ❖ **Practical Chemistry 1A (10 credits)**
 - ❖ One 3-hour practical per week
- ❖ **Practical Chemistry 1B (10 credits)**
 - ❖ A second 3-hour practical per week



First year Chemistry – 40 credits of choice

❖ Another science

- ❖ Molecules in Action (“Chemistry for all”)
- ❖ Biology (A-level required for some), Mathematics
- ❖ Archaeology, Computer Science, Earth Sciences, Astronomy, Sport Science

❖ Languages

- ❖ Beginners, GCSE, AS,
 - ❖ Arabic, Mandarin, French, German, Italian, Japanese, Korean, Russian, Spanish
- ❖ From A-level
 - ❖ French, German, Spanish, Japanese, Mandarin
- ❖ **F102** – “must” take at least one language module

❖ Arts and Social Sciences

- ❖ a wide range of subjects is available
- ❖ Not Economics or Business modules



First year contact

- ❖ 7 lectures per week in Chemistry (150 – 240 students)
- ❖ 1 tutorial (6 students)
- ❖ 1 problem class (40 students)
- ❖ 2 x 3 hr practical class (60 students)
- ❖ Elective modules (2 to 6 hrs / week)
- ❖ 20 to 23 hours of contact
- ❖ Private study
- ❖ Total of 40 hrs / week



Second year Chemistry: Depth

- ❖ Core Chemistry 2
- ❖ Modules in Inorganic, Organic, Physical Chemistry
- ❖ Theory and practical modules

- ❖ Choice
 - ❖ Biological Chemistry
 - ❖ Computational Chemistry
 - ❖ module from another subject

- ❖ 12-13 hours per week of Lectures / workshops
- ❖ 10 hours per week of laboratory work



Third year Chemistry MChem: Choice

- ❖ Core Chemistry 3
- ❖ Chemistry Literature Perspective (short dissertation)

- ❖ Modules in Inorganic, Organic, Physical Chemistry
- ❖ Theory and practical modules

- ❖ Materials Chemistry
- ❖ Biological Chemistry
- ❖ Advanced Biological Chemistry
- ❖ Computational Chemistry
- ❖ Advanced Computational Chemistry
- ❖ Language (F102 only)



Third year Chemistry BSc: Dissertation

- ❖ Core Chemistry 3
- ❖ Chemistry BSc Dissertation
- ❖ *Either* Chemistry & Society *Or* Chemistry into Schools

- ❖ Modules in Inorganic, Organic, Physical Chemistry
- ❖ Theory and practical modules

- ❖ Materials Chemistry
- ❖ Biological Chemistry
- ❖ Advanced Biological Chemistry
- ❖ Computational Chemistry
- ❖ Advanced Computational Chemistry
- ❖ Module from another subject



Fourth year Chemistry F105: Durham based Research

- ❖ Research Project (20 weeks, 15 h/wk)
 - ❖ Select your preferred research area
 - ❖ cutting-edge and innovative research
 - ❖ state-of-the-art equipment
 - ❖ working as part of an active research group
- ❖ Your results may be published in the literature

- ❖ Two lecture modules (lots of choice)
- ❖ 4 or 5 lectures / week



Fourth year Chemistry topics

Core Chemistry 4 (and 4D)

- ❖ Sustainable and green chemistry
- ❖ Zeolites
- ❖ Supramolecular Chemistry

- ❖ Medicinal Chemistry – Drug discovery
- ❖ Carbenes in organocatalysis
- ❖ Advanced Polymer Synthesis

- ❖ Advanced Molecular Spectroscopy
- ❖ Molecular Reaction Dynamics
- ❖ Macromolecular Physical Chemistry

ARCTiC

- ❖ Metals in Medicine
- ❖ Solid state NMR Spectroscopy
- ❖ Heterogeneous Catalysis

- ❖ Strategies in Total Synthesis
- ❖ Organofluorine Chemistry
- ❖ Designer Polymers

- ❖ Medicinal Chemistry – from hit to pill
- ❖ Cold and Ultracold Molecules
- ❖ Optical Microscopy and Imaging



Fourth year Chemistry F111: Industrial Research

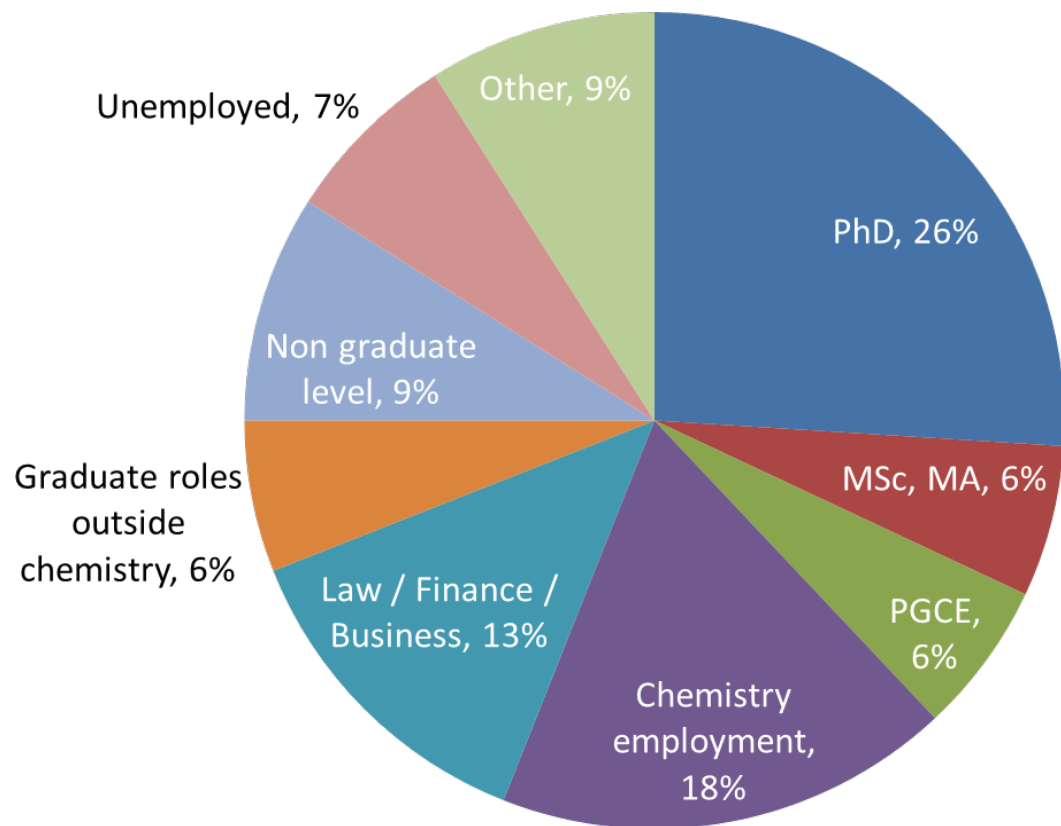
- ❖ Core Chemistry 4D
- ❖ Research Project in Industry
 - ❖ A chance to broaden your horizons
 - ❖ Durham supervisor - e-mail contact and visit
 - ❖ Study period in January (Durham or virtual)
- ❖ Normally paid 10 or 12 month jobs (£18K – 21K)
- ❖ Syngenta, Mondelez International, Cytec, Mitsubishi Chemicals, Infineum, Johnson Matthey, Astra Zeneca, Akzo Nobel, GlaxoSmithKline, Uniqema, Proctor & Gamble, Unilever, UCB Celltech, Kraft, Roche
- ❖ Organic chemistry, polymer chemistry, physical measurements
- ❖ Excellent employability prospects
- ❖ In contrast – most other universities have a 3rd year industrial option

Fourth year Chemistry F102: Overseas

- ❖ Core Chemistry 4D
- ❖ Research Project at an overseas university
 - ❖ A chance to broaden your horizons
 - ❖ Durham supervisor - e-mail contact and visit
 - ❖ Study period in January (Durham or virtual)
- ❖ Need ability in the appropriate language, language module in 1st year
- ❖ Turing/ERASMUS – Grenoble, CPE Lyon, Madrid, Würzburg, Berlin, Torino, Eindhoven, Valencia, Paris, El Paso, Buenos Aires, Perth, Melbourne, Calgary, Tokyo
- ❖ Limited opportunities in English-speaking countries
- ❖ Excellent employability prospects, language skills, independence.
- ❖ In contrast – most other universities have a 3rd year overseas option



What do our graduates do?



PhD graduates

85% go onto work or further study

83% of those are working as chemists

Source: DLHE 2008-13

Entry Requirements

- ❖ A*AA to include Chemistry and A-level Mathematics
- ❖ A* can be in Chemistry, Mathematics or any third academic subject
- ❖ We never make higher offers
- ❖ 2023 – 473 applications, 384 offers, target entry 87, hence 4.5 offers / place

- ❖ Offers will not include EPQ
- ❖ Mathematics and Further Mathematics treated as two subjects
- ❖ Some contextual offers of AAA or effectively AAB

- ❖ Four A-levels? Offer is A*AA Chemistry, Maths, any third academic subject

- ❖ IB – 38 points (666) Chemistry and (either) Mathematics HL
- ❖ SQA – Advanced Highers AAA, Chemistry and Mathematics
- ❖ European Baccalaureate – 80% overall, 85% Chemistry, Maths



Admissions

What our selectors consider

- Prior and predicted grades
- Personal Statement
- Teachers / Academic Reference
- Contextual evidence of merit & potential
- Motivation for the degree programme
- Study & other skills

Find out more at the Admissions Desk in the Information Hub in the Teaching and Learning Centre



A Collegiate University

- ❖ Every student joins a college, which provides:
 - ❖ accommodation - every first year student is accommodated in college
 - ❖ a library - there is also a large university library
 - ❖ IT facilities - there is also a central IT service
 - ❖ student welfare and support - Principal, Student Support, Mentors
 - ❖ a focus for extra-curricular activities - sport, drama, music, arts
 - ❖ a community spirit
 - ❖ an atmosphere where academic life is supported and encouraged
- ❖ Durham colleges do not provide any teaching
 - ❖ Chemistry does not teach in college groups



College Allocation and Preferences

- We no longer ask you to make a college preference on your UCAS Application Form. The only option listed at UCAS is 'Durham City'
- Your college is NOT linked to your degree subject
- Before we allocate your college, you will be invited to rank the colleges in the order of your preference
- You will be allocated your college in or around May
- Most colleges are open during the Open Day, or visit the Information Hub in the Teaching and Learning Centre



What to do with the rest of the day?

- ❖ Chemistry – meet the academics (tea / coffee / staff)
- ❖ Chemistry teaching labs with demonstrations (Lego hands-on)
- ❖ Visit a college (or two)
- ❖ Information Hub in Teaching and Learning Centre



Any Questions?

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