School of Natural and Computing Sciences
The School of Natural and Computing Sciences boasts an enviable track record in developing spin-out companies including TauRX, (Chemistry), a leader in Alzheimer’s disease research, Aria NLG (Computing Science), a pioneering artificial intelligence technology company, and Enocell (Chemistry), a leading supplier of new fuel cell modules.
Welcome

The School of Natural and Computing Sciences consists of four departments, which address the fundamental physical sciences through our world class teaching and research:

• Chemistry
• Computing Science
• Mathematics
• Physics

We are a highly research active school and we pride ourselves on delivering undergraduate teaching that draws on the very latest research and developments across these related scientific fields.

Our undergraduate students are an integral part of the life of the School and we aim to ensure we learn together and support each other throughout your time at the University. We pride ourselves on our open door policies and our friendly environment, in which we can provide every support to our students.

The School of Natural and Computing Sciences has extensive industry links and boasts an enviable track record in developing spin-out companies. Many of our undergraduate programmes include industry based placements or projects and many also carry professional accreditation by the relevant national bodies, therefore ensuring that our graduates are industry-ready and highly sought after by employers.

I hope you enjoy finding out more about us and our fantastic undergraduate offering and I look forward to hopefully welcoming you to the School of Natural and Computing Sciences in the near future.

Professor Peter Edwards
Head of School
Chemistry

Chemistry is a core science that is not only the very essence of life, but is also concerned with the quality of life and its continuing improvement. As well as being fundamental in our daily lives, chemistry is a fundamental subject in science. In different areas it overlaps with biology and medicine, with physics and engineering, and with geology and earth science.

Why Choose Aberdeen?

- Chemistry has been taught at Aberdeen for over 200 years and we were one of the first universities to introduce chemistry as a subject in its own right.
- Two Nobel Prize winners are associated with Chemistry at Aberdeen.
- Today our students perform practical work with state-of-the-art instrumentation under internationally recognised staff who are all active researchers in one or more of the areas of research strength of the Chemistry Department: Materials Chemistry, Biomolecular and Medicinal Chemistry, and Environmental Chemistry.

Degree programmes

We offer the following single honours degree programmes in Chemistry:

- BSc Chemistry (four years)
- BSc Environmental Chemistry (four years)
- BSc Oil and Gas Chemistry (four years)
- MChem Chemistry (five years)
- MChem Environmental Chemistry (five years)
- MChem Oil and Gas Chemistry (five years)

We also offer a BSc Designated degree in Chemistry after three years of study. Please refer to www.abdn.ac.uk/study for further details.

Teaching in the first two years aims to give a balanced treatment of all the main branches of the subject. In the third and fourth years you will develop a selection of topics in more depth and tailor your course selections to suit your own interests. The fourth year includes a research project, where students have the opportunity to interact with active research groups. Sponsored summer studentships are also available for students at level 3 and 4 which again, allow an opportunity to gain research experience.
Maser of Chemistry (MChem)

The Master of Chemistry (MChem) is seen as the flagship chemistry degree and requires five years of study leading to the professional qualification of Chartered Chemist. Entry into the final two years of the MChem is dependent on achieving at least an upper second class honours level of performance in your third year.

The MChem was designed in response to industry needs and provides graduates with a wider range of skills and more research experience than those in the four year BSc (Hons). A feature of our MChem route therefore is a final year four month research project, usually at an overseas university, research institute or industry laboratory.

Accreditation
Both the five year MChem degree and four year BSc Honours degree in Chemistry are accredited by the Royal Society of Chemistry.

Careers and Employability
Industries need a steady supply of skilled Geochemists, Synthetic Chemists, Analytical Chemists, and Environmental Chemists. As an institution with strong links to the Energy industry in Aberdeen, graduate from our Oil and Gad Chemistry degree have been recruited by leading Energy companies including BP, Shell, Haliburton and Statoil.

While a degree in Chemistry will prepare you for a career as chemist, it can also be a stepping stone to many other opportunities, both lab and non-lab based, in areas such as drug development, environmental protection, food chemistry, forensic science and materials development.
Are you a computer whizz who enjoys digital information? Do you try to understand how computer systems work? Have you tried different computer languages to invent your own interface? Do you want to get into Big Data, Machine Learning, the Internet of Things and smart technologies? Computing Science provides you with a solid foundation in a subject area that is in high demand, giving you skills in programme languages, data management, different systems, robotics and problem-solving.

Why Choose Aberdeen?

- At Aberdeen, you will learn a range of key computing skills and components, including, data management, artificial intelligence, computer programming, human-computer interaction, operating systems and web application development, to name a few.
- You will also gain a great mix of theory and practical skills. This is possible in part because of an excellent staff-student ratio and strong record of supporting students find work placements.
- The Aberdeen Software Factory is a student-run software house. Students can gain experience working on larger software projects and benefit from work experience, while clients will benefit from a flexible, cost effective solution to suit their needs.
Degree programmes

We offer two single honours degree programmes:

• BSc (Hons) Computing Science
• MA Computing
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It is also possible to study computing as a joint honours degree with other subjects including Mathematics, Philosophy, Psychology, Behavioural Studies, Music, and Business Management and Information Systems. Please refer to www.abdn.ac.uk/study for further details.

MSci (Industrial Placement) – 5 years

We also offer the MSci (Industrial Placement), a five year an integrated Master’s programme that adds a year-long placement in industry to the corresponding BSc or MA.

• MSci Honours in Computing Science with Industrial Placement
• MSci Honours in Information Systems with Industrial Placement
• MSci Honours in Computing with Industrial Placement

MEng in Computing Science – 5 years

The Master of Engineering is an integrated Master’s that enhances the traditional undergraduate programme with an additional year of academic study with a greater focus on the academic and theoretical skills that high-end employers and academic institutions particularly value.

Accreditation

Our single honours undergraduate degree programmes are accredited by BCS, The Chartered Institute for IT, giving full exemption from professional examinations.

Careers and Employability

The employment record of our graduates is excellent, with the vast majority entering occupations of their choice within three months of graduation. Our graduates have taken up posts in sectors as diverse as banking, pharmaceuticals and computer game development. Recent employers include IBM, Amazon, BP, ConocoPhillips, Hewlett Packard, EDS, CGI, Wipro, Scottish Hydro Electric, Scottish & Newcastle Breweries, British Telecom, QinetiQ and the National Health Service.

Vlad-Tudor Marchis, graduated 2016

“My placement year with Wincom was more than I could have hoped for. On top of all this, I have gotten the opportunity to return and work there after graduation, so I can very easily say that this has been an invaluable experience for me.”
Mathematics

Mathematics is not just about crunching numbers – it is about solving problems and looking for opportunities. Employers are keen to recruit mathematicians because they can think logically and analyse new developments in business, commerce or technology: opening up opportunities, especially in the financial sector, computing and information technology, geophysics and data analysis.

Why Choose Aberdeen?

- The Institute of Mathematics is a thriving centre of mathematical teaching and research located in a recently built part of Fraser Noble Building, with modern lecture facilities and dedicated space for meetings, group work, discussion, seminars and events.
- Our rigorous and comprehensive programme offers a wide choice of courses from the very beginning and small class sizes with about 25 students per class in third and fourth year.
- Choose to study for a Mathematics degree in Science (BSc) or Arts (MA), based on your individual strengths and interests.

Degree programmes

Our highly regarded programme consists of two main threads which progress throughout the four years of study; Analysis and Algebra. In addition, in the first two years we teach several courses on foundations. In the final two years we broaden the options to other areas of Mathematics such as Topology and Geometry.

Students can choose from four single honours degree programmes in Mathematics:

- BSc Mathematics
- MA Mathematics
- BSc Applied Mathematics
- MA Applied Mathematics

We offer a degree in Pure Mathematics and degree in Applied Mathematics to suit your taste and interests. You will only need to make the choice in your 3rd year.

The mathematical content of both the BSc and MA degree programmes is the same - the difference is in the choice of additional subjects taken alongside Mathematics. BSc students take mainly science-based subjects alongside their courses in Mathematics while MA students take subjects from the arts and social sciences. BSc and MA students can also choose to combine their study of Mathematics with another subject through a joint honours degree, including for example, Physics, and Computing Science (BSc) or Philosophy, Business Management, Economics, German and Hispanic Studies.

Please refer to www.abdn.ac.uk/study for further details.
Careers and Employability
Employers are keen to recruit mathematicians for their ability to think logically and analyse new developments whether in technology, business or commerce. Mathematics lends itself to a career in the financial sector, actuarial sector, computing and information technology, geophysics and data analysis, as well as in education. Companies that have employed our graduates include: Lloyds Banking Group, HSBC, NHS Grampian, Office of National Statistics, CGG, Community Energy Scotland and Schlumberger.

Prof Bjoern Schelter
Head of Physics
Bjoern is Head of Physics within the School. He is involved in various interdisciplinary projects - his strong research focus is on making sense of data by applying concepts from Physics/ Applied Mathematics to real-world challenges.

Prof Ben Martin,
Head of Mathematics
Alongside his role as Head of Mathematics, Ben teaches courses in combinatorics and engineering mathematics. His research is on group theory (the abstract study of symmetry), with an emphasis on matrix groups and their geometry.
Physics

Physics challenges our imaginations with concepts like relativity and string theory, and it leads to great discoveries about how the world works. Discoveries in Physics make possible technological innovations like transistors, the microchip, computers and lasers, which in turn change our lives. Physics encompasses the study of the universe from the largest galaxies to the smallest subatomic particles.

Why Choose Aberdeen?

• Teaching and research in Physics has a long and illustrious history at the University of Aberdeen. Former staff include great physicists such as James Clerk Maxwell (1831-79), who was one of Albert Einstein’s heroes.

• Today, our staff’s expertise ranges from understanding the fundamental nature of the universe with research into quantum gravitational theories through to solid state physics (understanding the atomic structure of complex materials and semiconductor device physics).

• In addition to Physics, we also offer a broad-based, less mathematical degree in Physical Science, which allows students combine Physics courses with a wide choice of other subjects including, Chemistry, Geology, and Biology.

Careers and Employability

Many graduates become professional scientists in industry, research institutes and universities or go on to pursue a postgraduate degree, either in Physics or a related area, and enter a vast variety of careers including meteorology, medical physics, environmental monitoring, astronomy, particle physics, geophysics, materials science, invention, design, teaching and even financial modelling.

Physics graduates also use their quantitative and data analysis skills in a variety of different ways in industry and commerce, including high salaried sectors such as computing and financial services.
School of Natural and Computing Sciences

**Degree programmes**

We offer a modern, modular degree structure with a broad syllabus and a wide range of degree choices. Single Honours options include

- BSc Physics
- BSc Physical Science – study a broad mix of courses from the physical sciences, including Physics, Chemistry, Geology, Biology etc.,
- MA Natural Philosophy – combine the study of Physics and Philosophy to explore the big questions of “life, the universe and everything”

Students can also choose to combine their study of Physics with another subject through a joint honours degree, including for example, Computing Science, Geology, Mathematics (BSc) or Philosophy (MA). Please refer to www.abdn.ac.uk/study for further details.

**Accreditation**

Our BSc Physics degree is accredited by the Institute of Physics.

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**Stella Kin, Data Analyst, Class of 2011.**

“Physics is a tough subject but stick at it – it gets better and better as you progress each year. When you get to the end you realise you’ve barely skinned the surface and there is so much science to still explore.”
Chemistry Society
The University of Aberdeen Chemistry Society (ChemSoc) is a society for chemists and non-chemists alike. ChemSoc arranges a variety of academic and social events throughout the year aimed at expanding students’ interests in Chemistry and having lots of fun! www.facebook.com/AUChemSoc

Computing Society
The Aberdeen University Computing Society provides a place for students to learn and share computing knowledge. Special events include practical workshops hosted by members on topics they are interested in, talks by invited guest speakers and social events such as movie nights and gaming competitions. www.facebook.com/AUComputingSociety/

Physics and Astronomy Society
The Aberdeen University Physics and Astronomy Society holds social events through the year including lectures, film nights, quizzes, revision sessions, stargazing and trips to the pub. www.facebook.com/groups/UoAPhysSoc

Mathematics Society
The Aberdeen University Mathematics Society aims to raise the profile of Mathematics as a discipline and a hobby across the University and to enhance the social environment for students studying Mathematics. www.facebook.com/AUmathssociety/
Study abroad

The University of Aberdeen has academic and industry links around the globe and there are many opportunities for current students to spend a semester or a year abroad at some of the most distinguished state universities in America, Canada or Hong Kong to name but a few.

Students who choose to go on an exchange programme normally go in their second year of study. The year they spend abroad is an integral part of their Aberdeen degree and not an additional year. Credits gained are recognised by the University of Aberdeen and incorporated into the student’s academic record. Opportunities exist for industry sponsored scholarships and bursaries, final year individual projects undertaken with industry and study abroad opportunities.
10 reasons
to choose
Aberdeen

01 The academic strength you would expect from a 500 year old university – yet right at the forefront for careers in the 21st century.
A thriving, cosmopolitan community with students from 120 countries set within a beautiful, historic campus that has seen five Nobel Prizes.

02 Degrees which are recognised and respected worldwide
Unique programme options with professional accreditation, industrial placements, plus the opportunity to study abroad.

03 A proven track record for employment and the best headstart your career can get
Our experience and connections can help secure that all-important first step on the ladder to a successful career. 93% of University of Aberdeen students enter directly into good jobs, research posts or further study within six months of graduating.

04 Choice and flexibility
It’s your degree and we believe it should be planned around you, with the freedom to plan your own programme of study from a wide range of options.

05 Opportunities to develop yourself and your interests
Not only academic qualifications to rival the best, but also personal, communication and teamwork skills to make you an all-round achiever in whatever you choose to do. We boast over 150 clubs and societies for students to join and offer excellent on-campus sports facilities.

06 The very best learning resources
We pride ourselves on providing state-of-the-art learning resources for our students. Computing and library facilities are geared towards your needs and we are especially proud of our exceptional museums and special collections.

07 A supportive community
A self-contained friendly campus in a friendly city; we will do everything we can to help you quickly feel at home. Our support services rank with the best in the UK and we aim to make sure, right from the start, that you have access to any guidance you might need – academic, personal, medical or financial.
Aberdeen is probably closer than you think. Cheap and regular air, rail and bus connections will get you around Scotland, the UK and further afield in no time.

Aberdeen is a buzzing, friendly city that has it all. Historic, international, fashionable and friendly, Aberdeen is the perfect place to live and study. Aberdeen has also been voted the best place to be a student in the UK by a leading accommodation website.

First class accommodation
All new students are guaranteed a place in student accommodation, either on the campus or close by – so no need to set the alarm too early.

Aberdeen is ranked Britain’s safest city (Provident Financial 2017)

We’re on the map
Aberdeen is probably closer than you think. Cheap and regular air, rail and bus connections will get you around Scotland, the UK and further afield in no time.