Contents

01 Welcome
02 Why Study With Us?
04 Research Degrees
06 Doctoral Training Partnerships
07 A Student’s Experience
08 Norwich Research Park

11 Our Taught Courses
12 Biological Sciences
16 Chemistry
18 Computing Sciences
24 Engineering
26 Environmental Sciences
31 Pharmacy

34 Life at UEA
36 Norwich and the Region
38 Applying to UEA
39 Visiting Us

www.uea.ac.uk/sci
Welcome to the Faculty of Science

The Faculty of Science at the University of East Anglia is a centre of internationally-renowned research excellence and home to some of the world’s leading academics, making it a highly invigorating environment for postgraduate study.

As a postgraduate student within UEA’s Faculty of Science you will enjoy your studies at the forefront of graduate education and research, as an integral part of a vibrant environment dedicated to personal and professional development.

The Faculty is one of the largest within the University and has a unique learning environment that encourages a ‘faculty without walls’ approach to innovation and excellence in both teaching and research. Our focus on interdisciplinary collaboration across the University and with our partner institutes at the Norwich Research Park is a major strength of our Faculty.

Our collaborative and interdisciplinary research tackles fundamental questions and agendas of global significance.

In the Research Assessment Exercise (RAE 2008) all of the research units within the Faculty of Science were rated as having world-leading research and over 93 per cent of our research was assessed as being of international quality.

The six Schools of Study in the Faculty are committed to providing an intellectually challenging learning experience within a supportive educational environment responsive to student needs. This is reflected in the high scores received in the National Student Satisfaction Survey. The Schools of Study are: Biological Sciences (BIO), Chemistry (CHE), Computing Sciences (CMP), Environmental Sciences (ENV), Mathematics (MTH) and Pharmacy (PHA). Welcome to the Faculty of Science at UEA.

“Norwich is internationally renowned for its research excellence. In terms of numbers of most highly cited scientists, Norwich is ranked fourth in the UK after London, Oxford and Cambridge.”

Thomson Reuters 2014
Why Study With Us?

We believe the University of East Anglia offers a unique environment to both live and learn. A centre of teaching excellence and world-leading research, we are rated a top 15 UK university (Guardian University Guide 2015) sitting among the finest one per cent of higher education establishments in the world (Times World Rankings 2013).

In terms of most highly cited scientists, Norwich is ranked fourth in the UK after London, Oxford and Cambridge (Thomson Reuters 2014).

The Faculty of Science at UEA provides a lively environment in which high-quality, innovative research flourishes across a broad spectrum of themes. This vibrant culture provides a base for our research-led teaching and underpins all our activities from influence of government policy to presentations at local schools.

World-leading research

UEA is one of Britain’s premier research and teaching universities and is committed to achieving international standards of excellence. In the government-sponsored Research Assessment Exercise (2008) all of the research units within the Faculty of Science were rated as having world-leading research and over 93 per cent of the research outputs were assessed as being of international quality; many of our scientists have won prestigious awards in recognition of their outstanding achievements.

The successes of our six Schools have played a major part in the University of East Anglia’s excellent reputation. Each School teaches and conducts research in a range of discipline-specific areas. The Faculty also offers multidisciplinary programmes in the following subjects: Actuarial Sciences, Engineering, Geography and Natural Sciences.

Interdisciplinarity is central to our research philosophy, with collaborative projects not only within the Faculty of Science but with colleagues across UEA, from historians to economists to physicians. Our research projects deliver new concepts and products with direct benefits to the wider community, in topics as diverse as improved digital imaging, to the detection of illicit drugs, and new methods of treating diseases.
Facilities
One of six partner institutes on the Norwich Research Park, UEA’s collaboration with the nearby John Innes Centre, The Genome Analysis Centre, The Sainsbury Laboratory, Institute of Food Research and Norfolk and Norwich University Hospital greatly extends the depth and breadth of our local scientific network, exemplified by shared students, joint projects and seminar programmes.
This alliance also provides all researchers across the Park with unparalleled access to shared and coordinated research facilities from sophisticated bio-imaging equipment to the full range of ‘omic’ analyses and underwater gliders that sample the ocean depths.
The Faculty of Science has been very successful in winning Research Council, Wellcome Trust, Royal Society and Wolfson Foundation infrastructure awards resulting in new buildings, extensions, refurbishment and re-equipping. This constant expansion and modification has afforded us the Zuckerman Institute for Connective Environmental Research (ZICER) Building, and the Centre for Ocean and Atmospheric Sciences (COAS) for the School of Environmental Sciences (ENV); the Biomedical Research Centre (BMRC) and imaging suites for the School of Biological Sciences (BIO); a major new facility for Biophysical Chemistry in the School of Chemistry (CHE); two new laboratories for Energy Research in CHE and BIO and a new D’Arcy Thompson Centre for Computational Biology Laboratory in the School of Computing Sciences (CMP).

First-class teaching
The standing of the University’s postgraduate programmes is confirmed by the rigorous process of external assessment by the Quality Assurance Agency for Higher Education (QAA) and by a framework of external peer review. Our most recent Institutional Audit by the QAA in 2009 gave us the highest possible ranking, confirming the University’s academic standards and the quality of students’ learning opportunities.

Funding
The Faculty of Science currently has a total research grant holding of £50 million and around 540 PhD candidates and 175 MSc postgraduates. About 220 postdoctoral associates and holders of personal fellowships work within the Faculty. These numbers double when fellows and students in the institutes of the Norwich Research Park (NRP) are included.
The Faculty of Science encourages a truly collaborative approach, nurturing joint grants, studentships and publications. Both our research and our active population of postgraduate research students are funded from many sources: Research Councils, the EU, national and international governments, charities and industry.

Careers and employability
We are dedicated to placing you in direct contact with industry and potential employers and offer a full range of services designed to aid your transition into employment. For more information turn to page 35.

“I was very impressed by the wide variety of modules offered and by the quality of teaching, which was not only cutting edge and engaging, but presented by world-leading scientists. The skills I acquired have enhanced my job prospects and given me a head start in my PhD studies. The multi-disciplinary nature of the School of Environmental Sciences makes it an inspiring and exciting place to study.”
Penelope Pickers, MSc graduate and current PhD student
Research Degrees

The Faculty of Science at UEA has a long and well-deserved international reputation for research excellence. We continually attract some of the best academics in the world, and many have become leaders in their fields.

Postgraduate students are an important part of a research intensive university contributing to the intellectual vitality and vibrancy of the institutions as they learn, grow and develop. Today’s postgraduates could be tomorrow’s postdoctoral research fellows and potential Nobel Prize winners of the next decade.

Research degrees available are the Doctor of Philosophy (PhD), Master of Philosophy (MPhil) and Master of Science (MSc) by Research. All research programmes involve independent and original research, resulting in an extensive thesis at the end of the programme. Research students in the Faculty of Science undertake a specially developed skills training programme, designed to ensure that they are equipped with the necessary skills and methodological knowledge to undertake original research and progress to a future career.

PhD
A PhD is a research-based programme where the student advances knowledge and understanding in their chosen subject, resulting in an 80,000-100,000 word thesis. PhD programmes usually last for a period of three years, however in some cases it may be four. A PhD will demonstrate your ability to conduct original research and will be an independent and original study, conducting field work or collecting data, which advances the frontiers of knowledge in the subject area.

MPhil
The MPhil is a shorter research-based programme leading to a 50,000-65,000 word thesis that is an original piece of research that demonstrates practical and theoretical understanding. Students register for two years and usually complete within two to three years. An MPhil degree will demonstrate possession of the skills necessary to carry out supervised research by the analysis of existing data or small original data sets.

MSc by Research
The MSc by Research is a short research-based programme leading to a 30,000-40,000 word thesis that shows evidence of ability to conduct original investigations and test ideas. Full-time students undertake a period of advanced study and research for 12 months and usually complete within two years. Flexible options are available for candidates employed in industry who wish to undertake this programme.

“UEA was very important to me at a crucial time in my research life. I received brilliant training as a research student which has stood me in good stead for the rest of my career. And, of course, I really enjoyed myself.”
Sir Paul Nurse, PhD Biology and 2001 Nobel Prize winner
The Faculties and the Schools are here to ensure that your postgraduate research studies at UEA fulfil your needs and expectations, and equip you for a successful future. Together with your supervisory team, they will help you to make the most of the opportunities available. In addition to your own independent study, you will take part in the general research life of your department, and will be involved in seminars, colloquia and other activities. At the end of your period of registration, you will present your thesis for assessment and be given an oral examination on it.

Research students in most programmes may register on 1 October, 1 January, 1 April or 1 July in any year.

PhD by Publication

Experienced researchers may apply to be candidates for the degree of Doctor of Philosophy by Publication. The work submitted must show evidence of adequate industry and application of an extent characteristic of more than seven years’ active research effort in the candidate’s field. The work should represent a significant contribution to the development of understanding.

For part-time students, the length of all research programmes (PhD, MPhil, MSc by Research and PhD by Publication) is normally twice that for full-time students.

World-leading research

The quality of our research will directly affect you as a postgraduate student in the Faculty of Science whether you pursue a research or a taught programme. We regularly review and develop our programmes in line with our research discoveries to ensure you will be taught or engaged in research at the leading edge of your chosen discipline.

UEA is a centre of innovative research and postgraduate research students make important contributions to creating the stimulating environment that exists across the four Faculty Graduate Schools.

Your own supervisory team

As a research student, you will work closely with a supervisory team who will guide and advise you throughout your period of study. The supervisors will also guide you in writing up your thesis, but you retain responsibility for your own work. We have approved policies on supervisory practice which set out how the responsibilities are shared between student and supervisors; a copy is given to each new research student.

We also adhere to the national Code of Practice for the assurance of academic quality and standards in higher education published by the Quality Assurance Agency for Higher Education.

A personalised development plan

At the start of each year you are asked to review your existing skills, analyse your training needs and design a personal development plan with your supervisory team. Although each Faculty Graduate School has its own programme, they share a common desire to enhance the quality of postgraduate training so you are welcome to take modules from one or more of the three other Faculties. This allows you to create a bespoke training plan that meets your personal needs. Additionally, this flexible approach offers an opportunity for you to interact with postgraduate researchers who you may not otherwise have met during the normal course of your studies.

www.uea.ac.uk/science/graduate-school

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www.uea.ac.uk/science/graduate-school

Developing your skills

Developing your personal and professional skills is part of becoming an effective researcher and making a successful transition into your future career, whatever your field of employment. Our innovative Researcher Development Programmes begin with your intellectual and practical needs as a higher-level researcher. They aim to help you develop the research skills which underpin the production of high-quality research, from writing your thesis to communicating information to a variety of audiences. They will also help you to develop an understanding of the role of your research in the wider world, and encourage you to reflect on the commercial possibilities of your research, as well as any ethical implications.

A personalised development plan

At the start of each year you are asked to review your existing skills, analyse your training needs and design a personal development plan with your supervisory team. Although each Faculty Graduate School has its own programme, they share a common desire to enhance the quality of postgraduate training so you are welcome to take modules from one or more of the three other Faculties. This allows you to create a bespoke training plan that meets your personal needs. Additionally, this flexible approach offers an opportunity for you to interact with postgraduate researchers who you may not otherwise have met during the normal course of your studies.

www.uea.ac.uk/science/graduate-school

Dr Maria Jose Maria Altaba, SET for Britain 2014 Gold Award winner for Chemistry.
Doctoral Training Partnerships

Securing an opportunity on one of our Doctoral Training Partnership programmes is an excellent way to set yourself apart, working at the cutting edge of research. You will be part of a vibrant, multinational research community, learning from internationally recognised scientists while contributing to new and exciting discoveries.

Norwich Biosciences Doctoral Training Partnership
The Norwich Biosciences Doctoral Training Partnership (DTP) is a new PhD training programme supported by the Biotechnology and Biological Sciences Research Council (BBSRC) who recognise Norwich as a major centre for biosciences research in the UK. The programme involves five world-class research institutions based on the Norwich Research Park offering talented biosciences graduates an opportunity to work in a multidisciplinary research environment and join a vibrant student community.

The DTP programme will deliver scientists with the required training to meet major social and economic challenges in food security, sustainable bioenergy and renewable materials and improving lifelong health and wellbeing, as well as supporting those undertaking research in core underpinning biosciences.

An innovative and integral element of the programme, built in to enhance the employability of the DTP students, is the requirement for them to undertake a three-month professional internship outside of the lab to widen their experience of the areas of work in which they can apply their PhD skills and training. Destinations for these internships will include policymaking, media, teaching and industry.

The BBSRC works closely with our programme to support the delivery of excellent training and facilitate the development of a cohort of highly-skilled BBSRC early career scientists.

www.biodtp.norwichresearchpark.ac.uk

EnvEast Doctoral Training Partnership
We have received a £5 million award from the Natural Environment Research Council (NERC) to create the Environment East (EnvEast) Doctoral Training Partnership.

As an EnvEast Doctoral Training Partnership (DTP) student, you will engage in a range of activities during your period of study. A large part of this time is spent conducting research leading to the examination of your doctoral thesis for the degree of Doctor of Philosophy (PhD). For this, you will have access to a wide range of cutting-edge facilities across the EnvEast partnership. You will also engage with training activities that will both enable and assist your research activities, but will also develop your personal, professional, and transferable skills, and prepare you for a wide range of employment opportunities after graduation.

We are offering fully funded PhD studentships for research in the environmental, earth and ecological sciences where postgraduates will join a vibrant research community of other PhD research students from the UK and across the globe studying in the same or similar areas.

The EnvEast DTP provides training in three key themes of international significance:
– Climate, Marine and Atmospheric Systems
– Biodiversity, Ecosystem Services and Sustainable Development
– Natural Hazards.

The partnership draws together relevant expertise from a complementary set of research organisations to train scientists capable of making outstanding contributions to their discipline and able to apply their knowledge to the challenges facing the UK economy, the quality of life for its citizens, and the state of the global environment.

Email: env.east@uea.ac.uk for more information.

“I completed my BSc in microbiology at the UEA, a university with real emphasis on current research especially in the field of microbiology. I undertook a summer project, at the end of my second year of university, and this opened my eyes to real practical applications of microbiology aside from in the medical field. During the final year of my undergraduate degree, I looked into doctoral study as a way of being involved in new research as it was discovered. The attraction of making my own discoveries was the final deciding point, which led me to apply for a position at UEA where I work with like-minded individuals. My project looks at the MtrC protein in Shewanella species, using molecular techniques to alter its structure and allowing its role in metal respiration to be better understood. Studying on the Norwich Research Park makes me feel like part of a force with resources to make the real discoveries of our generation.”

Michael Norman, one of our Doctoral Training Partnership PhD students
Susan van der Heide
PhD in Chemistry

Qualifications
BSc Biochemistry and Genetics
MSc Forensic Science

Originally from
Nelson, New Zealand

Susan is from Nelson, New Zealand and has just completed a PhD in Chemistry at UEA. Here Susan tells us how she found postgraduate study at the University together with her plans for the future.

What inspired you to study a PhD?
After my undergraduate degree I spent some time working in industry and although interesting, I found the work to be very routine-based. I left my job in industry in favour of an academic career path because I wanted to try my hand at more independent research in areas of interest to me. It was because of this that I chose to start a Master’s and from there went on to study my PhD.

Could you tell us why you chose to study a PhD at UEA?
I met my supervisor at a conference where he presented a branch of his research, and this drew me to UEA. I chose to apply for the PhD because of the project I was offered, and because of UEA’s excellent reputation for both research and chemistry.

Where did you study for your degrees?
I studied my first degree at the University of Otago in New Zealand where I obtained a Bachelor of Science in Biochemistry and Genetics. My Master’s degree was in Forensic Science at the University of Amsterdam. During my Master’s I had the opportunity to work in the research laboratories in the toxicology department at the Royal Canadian Mounted Police in Vancouver, British Columbia. It was here that I found that I really enjoyed research.

Tell us about your PhD
My research topic is in antibody-functionalised gold nanoparticles for forensic and diagnostic applications. At the moment I am developing a novel method for the detection of cocaine on banknotes.

What did you really enjoy about your PhD?
I particularly enjoyed working independently, and being able to contribute my own ideas to my research. I am incredibly lucky with the amount of help and support I received – not only my supervisor and fellow PhD students in my research group, but also the other postgraduate students and staff members in the department. I think the people that I have met here and the new experiences that I have gained have made the PhD a worthwhile experience.

Has your PhD met your expectations?
Yes, the PhD has provided me with the skills required for scientific research, but also useful experiences such as laboratory demonstrations to undergraduate students, and presenting to both scientific audiences and the public.

What has been the highlight of your PhD?
In particular, the exciting opportunity to work at the London Olympics 2012 Doping Control Laboratory, provided to me via my supervisor, was beyond my expectations.

What advice would you give to new students, both about university life and studying a postgraduate programme?
I think that studying at UEA and living in Norwich is a genuinely excellent decision for a PhD research student. The campus has great facilities in a relaxed setting, which definitely eases the stress of full-time research. Norwich itself is also a great place to live – the city is affordable, friendly and easy to get around, but at the same time has plenty of great pubs, shopping, restaurants, theatres and events on offer.

How do you rate the research facilities at UEA and how have they helped you?
In the School of Chemistry at UEA I have access to a broad range of facilities which are essential for my research. Resources, information and equipment made available both within my research group, and from other research groups in the department have been incredibly helpful throughout my PhD.

What are your plans for the future?
I am hoping to continue working in academia as a postdoctoral researcher now I’ve completed my PhD, as it has given me the skills and experiences that I need to pursue a career in research. In particular the networking opportunities that UEA has provided me with will be essential in my search for employment.

What do you do in your spare time?
I enjoy skiing, swimming and yoga, and I also draw the odd cartoon!
Norwich Research Park

We are extremely proud to be a partner of the Norwich Research Park, one of Europe’s leading centres for research and development in plant and microbial sciences, food science, bio-medical science, environmental sciences, computer and information systems and chemistry.

The other Norwich Research Park partners are three BBSRC supported research institutes: the John Innes Centre, the Institute of Food Research and The Genome Analysis Centre, along with The Sainsbury Laboratory and the Norfolk and Norwich University Hospitals NHS Foundation Trust (NNUH). Together we are fourth in the UK for the number of “most highly cited scientists” measured by research discipline. The Park is also home to a growing number of small science and technology-based companies. This is destined to grow rapidly with increasing investment to support enterprise and commercial activity over the next two years.

The main strength of the Norwich Research Park is the concentration of world-leading scientists coupled with the capability for multidisciplinary research. We continue to build on this by attracting new partners and innovative businesses to the Park to collaborate in our research and to develop our vision.

The vision of the Norwich Research Park partners and local government stakeholders is to develop a thriving science and innovation business park by supporting spin-out and start-up companies and attracting inward investment from large corporate organisations involved in science and technology.

The Norwich Research Park is home to around 30 science and IT-based businesses. With over 11,000 people including 2,700 scientists and an annual research spend of over £100 million, the Norwich Research Park is Europe’s leading centre for research in food, health and the environment. The companies are located either in the Norwich BioIncubator, the Norwich Research Park Innovation Centre or hosted by one of the Park member organisations. www.norwichresearchpark.com

Institute of Food Research

The Institute of Food Research (IFR) is the only publicly funded UK research institute that focuses on the underlying science of food and health.

IFR’s mission is to be an international leader in research that addresses the fundamental relationships between food and health, food and the gut and the sustainability of the food chain in order to further the production of safe, healthy foods.

Its research focuses on how food structure and bioactive compounds influence health and reduce the risk of chronic disease, and how the gut, the gut lining and our resident gut bacteria maintain health throughout life. It also studies the fundamental biology of pathogenic foodborne bacteria, to ensure a safe food supply, and exploitation of food waste, to increase food chain sustainability.

IFR works collaboratively with partners on the Norwich Research Park, and other universities and research institutes in the UK, EU and across the world. It works closely with the food industry, clinicians and policy makers to ensure impact of our research in maintaining health.

Postgraduate training is an integral part of IFR’s mission, and aims to provide the students with transferable skills usable in a wide variety of career paths, with opportunities to work with industrial partners and clinicians. Close links with UEA ensure high standards of supervisory practice and mentoring for graduate students, access to training and development courses, and the student experience at this top-rated university.

In 2017, IFR will move into a new state-of-the-art building at the heart of the Norwich Research Park. Researchers from IFR, UEA and NNUH will be brought together in a new, world-leading centre for food and health research. www.ifr.ac.uk
John Innes Centre
The John Innes Centre (JIC) is dedicated to generating knowledge of plants and microbes through innovative research, to applying its knowledge to benefit agriculture, the environment, human health and well-being, and to engaging with policy makers and the public. The Centre is also committed to training scientists for the future.

The JIC is a dynamic, multinational community of scientists and students and its reputation for scientific research is known worldwide, attracting some of the best and brightest students from around the globe. As a major centre, the site attracts funding to maintain a broad range of state-of-the-art facilities that include specialist laboratories and controlled environment suites. It has an ongoing laboratory development programme and provides, or has access to, key platform technologies that underpin its science. It has, for example, invested heavily in electron and confocal microscopes, spectroscopy equipment and the advanced robotics and bioinformatics required for genomic, proteomic and metabolomic science. The extensive facilities include a 200-acre farm, the latest laboratories, glasshouses, conference centre and library.

The JIC is an international centre of excellence in plant science and microbiology that sees over 200 refereed publications each year appearing in high-impact journals such as Nature and Science. Research makes use of a wide range of disciplines in biological and chemical sciences, including microbiology, cell biology, biochemistry, chemistry, genetics, molecular biology, computational and mathematical biology. The Centre is home to 400 scientists and support staff including eight Fellows of the Royal Society.

Support is given to PhD students via an interactive supervisory team and professional training and career development staff.

www.jic.ac.uk

The Sainsbury Laboratory
The Sainsbury Laboratory (TSL) is a world-leading research institute working on the science of plant-microbe interactions. TSL has developed an enviable reputation for the quality of its fundamental scientific research but is also committed to delivering science solutions that reduce crop losses to important diseases. TSL favours daring, long-term research and has state-of-the-art technologies and support services to enable cutting-edge science. The Laboratory provides an outstanding training environment that prepares postgraduate students, postdoctoral scientists and early career project leaders to excel in their careers. Many scientists who have passed through the Laboratory have continued their careers in prestigious laboratories and institutes around the world.

The Laboratory’s main goals are to:

- Make fundamental discoveries in the science of plant-microbe interactions;
- Build on fundamental scientific research and deliver science solutions that reduce crop losses to important diseases;
- Provide an outstanding training environment that prepares scientists who pass through the Laboratory to excel in their careers.

From its inception, TSL has been generously supported by the Gatsby Charitable Foundation. Research topics include: plant disease resistance genes, the biology of pathogen effector proteins, innate immune recognition in plants, signalling and cellular changes during plant-microbe interactions, plant and pathogen genomics, and biotechnological approaches to crop disease resistance.

www.tsl.ac.uk

The Genome Analysis Centre
The Genome Analysis Centre (TGAC) is a vibrant, contemporary research institute working in an area of rapid technological development and innovation. TGAC is a specialist in genomics, including DNA sequencing and whole genome scale analysis and in bioinformatics for analysis and interpretation of sequencing data, particularly in plant, animal and microbial science. Its work drives and enables advances in bioscience applications, particularly focused on food, health and the environment.

TGAC is a centre of national capability, committed to applying genomics knowledge and expertise through enterprise, collaboration and skills development to advance scientific knowledge and promote economic growth. It has a diverse team including genomics scientists, technologists and bioinformaticians.

The Institute’s research priorities align with those of the Biotechnology and Biological Sciences Research Council, to address the grand challenges to the UK of maintaining food security, life-long health and well-being, energy security and living with environmental change, through the application of genomic technologies. The Institute is a leading member of several international consortia, resulting in high profile publications on the genomes of swine, barley and wheat.

Staff and students have access to a unique combination of state-of-the-art genomics and computing platforms. The Institute’s DNA sequencing facility operates multiple complementary technologies for data generation and is an early adopter, developing and implementing new technologies to both generate and analyse new types of data.

TGAC is a UK hub for innovative bioinformatics, specialising in tackling multiple complex data sets. The Institute hosts one of the largest computing hardware facilities dedicated to life science research in Europe, composed of multi-petabyte storage capacity, a high-performance cluster and large-memory server enabling the allocation of processes requiring multiple terabytes of computing memory.

www.tgac.ac.uk
Our Taught Courses

The Faculty of Science at UEA has an excellent reputation for teaching, as confirmed by the rigorous process of external assessment by the national Quality Assurance Agency for Higher Education.

Full-time Master’s (MSc) courses usually last for a period of one year, with the teaching element divided into two semesters. The programmes also incorporate an independent research project or dissertation, with guidance offered by a project supervisor. The Master of Research (MRes) programmes provide foundation training in the basic and advanced research skills sufficient to enter a doctoral programme. The Faculty also offers Graduate Diploma programmes, ideal for students who have undertaken a first degree in a non or less scientific discipline, but who aim to pursue a career in the sciences.

“Being a postgraduate here is wonderful: it’s challenging, it’s rewarding and it’s great fun. Friendly people and the lovely city of Norwich make this a fantastic experience that I would recommend to anyone.”
Ljiljana Harding, PhD Graduate, School of Pharmacy

A full breakdown of all our taught programmes, listed by subject area can be found on the following pages:

- Biological Sciences 12
- Chemistry 16
- Computing Sciences 18
- Engineering 24
- Environmental Sciences 26
- Pharmacy 31
Our School of Biological Sciences (BIO) is a vibrant and friendly academic community firmly embedded in the internationally renowned Norwich Research Park. It boasts extensive, state-of-the-art research facilities as well as modern teaching laboratories.

The School offers a diverse range of postgraduate taught (PGT) degrees that allow you to combine varied areas of modular study that are delivered by academic research staff who are experts in their field. BIO is dedicated to providing exciting and engaging learning programmes, and in the 2013 National Student Survey, the School achieved an overall satisfaction rate of 95 per cent. Research institutes on the Norwich Research Park, with more than 2,000 scientists affiliated to the School of Biological Sciences, add strength and breadth to our teaching and research. As well as discipline-based knowledge, our students are also provided with a number of transferable skills required by modern day scientists, including scientific writing, science communication and engagement, knowledge transfer and ethics for bioscientists.

Assessment is through a diverse combination of formal exams, laboratory/field reports and coursework assignments. In addition our research projects, which are hosted by laboratories across the Norwich Research Park (and much further afield for our ecologists) are submitted as a formal bound dissertation. Our graduates have gone on to a range of careers across the world, including further postgraduate study (PhD) or jobs in industry and NGOs. PGT students are fully embraced into our School environment, and all our students are allocated an academic adviser who is there to provide additional academic and pastoral support. This is particularly helpful early on to get you settled into life at UEA.

Research Excellence and Facilities

BIO embraces a collaborative research ethos across a range of opportunities within the wide-ranging disciplines of the biosciences. The School contains a dynamic research community with expertise that covers the full spectrum of biology. Currently BIO is organised into four themes, which feed into each of our PGT courses:

**Organisms and the Environment**
Conducts research on an array of plant and animal systems, in the field and the laboratory, to gain an integrated understanding of adaptation and ecology at the molecular, organismal, population and community levels. By studying questions in evolutionary biology, ecology and conservation, we address both fundamental issues and societal priorities, such as the preservation of biodiversity and essential ecosystem services.

**Cells and Tissues**
Focuses on how cells, tissues and whole organisms develop and work. We have strengths in cell and developmental biology and use modern research facilities to investigate fundamental questions important in health and disease, using for example the cardiovascular and musculoskeletal systems, the gut, the eye and cancer models.

**Molecular Microbiology**
Addresses fundamental aspects of microbiology and microbial biochemistry. Microbes are the most successful organisms on Earth and they are the driving force in the evolution, development and success of multicellular organisms. Our research addresses big questions in microbiology from the effect of microbial communities on host fitness and reproduction to mechanisms of bacterial infection and their role in driving the global sulphur and nitrogen cycles.

**Plant Sciences**
This theme studies different aspects of plant molecular biology including biochemistry, gene expression regulation by small RNAs, flower development, modelling of cell polarity and disease resistance. We make fundamental discoveries and translate them to cultivated crops to increase nutrient level, yield and resistance against pathogens. The theme includes The Sainsbury Laboratory, which is based in a separate facility on the Norwich Research Park.

This huge span of activity not only allows genuine research-led teaching, but also facilitates partnerships with colleagues in other Schools within UEA and affiliated organisations within the Norwich Research Park. The School is spread over two buildings (BIO and the Biomedical Research Centre) joined by the Atrium, which is a focal point for gatherings and networking and which houses the BIO Cafe, a great communal area for staff and students to meet.

For more information on our research visit: www.uea.ac.uk/bio/research
MSc Applied Ecology
and Conservation

Graduate Diploma
in Ecology

For further information T +44 (0) 1603 591515
E admissions@uea.ac.uk
www.uea.ac.uk/bio

Length of Courses:
1 year full time for the MSc
1 year full time or 2 years part time
for the Graduate Diploma

Entry Requirements
For the MSc you should have or expect to
obtain a good first degree (minimum 2:1 or equivalent) in a biology-related subject
plus evidence of additional conservation
experience. First degrees in geography
or environmental management are
also accepted if these contain a strong
ecological component.
For the Graduate Diploma you should have
or expect to obtain a good first degree
(minimum 2:1) in any discipline.
International students should refer to page
38 or our website for English language
requirements.

Alternative Qualifications
Non-scientists wanting to retrain may take
the one-year Diploma in Ecology and enter
the MSc Applied Ecology and Conservation
the following year.

Fees and Funding
Details of our tuition fees and scholarships
can be found on the fees and funding
tab of individual course profiles at:
www.uea.ac.uk/bio/pgt
www.uea.ac.uk/study/pgt/scholarships

How to Apply
See page 38.

Programmes of study are regularly reviewed
and updated – for the most up-to-date
course information, please see:
www.uea.ac.uk/bio/pgt

MSc Applied Ecology
and Conservation

Who is the Course for?
This is a flexible course which provides
skills and experience suitable for a range
careers in conservation and applied
ecology. The interdisciplinary training that is
provided, together with specific skills in study
design data collection and analysis, provide
an ideal platform either for continuation to
doctoral research or for direct access into
conservation-related employment.

Course Content and Structure
The course begins with a field course.
In addition to core modules including:
Ecological Survey Methods; Issues in
Conservation: Univariate Statistics; and
Multivariate Statistics, you will be able to
choose from a broad range of optional
modules including:
- Biodiversity Conservation and
  Human Society
- Evolutionary Biology
- Conservation Genetics
- Ecological Modelling and Statistics
- GIS for Ecology and
  Environmental Management
- Practical Conservation and
  Work Experience
- Ecological Responses to Climate Change
- Restoration Ecology.
The second half of the year is spent on an
individual research project, often overseas.
Many of these studies result in peer-reviewed
publications. Examples of some recent
research projects conducted by students on
this course can be found on our webpage at
www.uea.ac.uk/bio/pgt.

Conservation biologists and ecologists in
the Schools of Biological and Environmental
Sciences conduct most of the teaching, with
input from staff from a wide range of leading
conservation organisations. Assessment is
on the basis of coursework, practical field
work, research skills and a major research
project dissertation.

Employment Prospects
This MSc programme provides in-depth
exposure to global conservation issues, training
in a broad range of transferrable skills and,
importantly, opportunities to establish valuable
contacts with potential employers in a range
of national and international conservation
organisations. Through short-term work
experience and co-development and
supervision of research projects, our students
can work directly with practising conservation
biologists in the UK and throughout the world.
Our graduates are employed in research,
teaching, government institutes and national
and international conservation organisations.
Many of our students go on to study for
doctoral research degrees.

Graduate Diploma in Ecology

Who is the Course for?
This course provides honours level ecological
theory and skills training. It enables career
conversion to the ecology and conservation
sector by graduates (or equivalent
experience) from non-ecological disciplines
including other sciences and the humanities.
It focuses primarily in the areas of population
and community ecology and conservation
biology, but is sufficiently flexible to enable
you to strengthen your knowledge in related
interdisciplinary areas taught by the Schools
of Biological and Environmental Sciences.

Course Content and Structure
Two compulsory modules are chosen from:
Interactions and Populations; Community,
Ecosystem and Macro-Ecology; and
Biodiversity Conservation and Human Society.
Up to four additional modules are chosen
from (but not confined to): Aquatic Ecology;
Behavioural Ecology; Conservation, Ecology
and Biodiversity in the Tropics; Ecology,
Research Project; Environmental Politics
and Policymaking; Evolutionary Biology;
Field Ecology; Food Domestication and
Sustainability and Science Communication.
Courses are taught through a combination
of lectures, seminars and field work and
assessment is in the form of coursework,
presentations, projects and examinations.

Employment Prospects
In addition to core skills in ecology, this
course is designed to ensure you develop
a wide-range of transferrable skills, including
statistical analysis, field work, science
communication, information technology,
teamwork, and critical writing and reasoning.
Most students go on to complete MSc courses
in biodiversity, ecology and/or conservation
biology as a stepping stone to PhD research or
employment in ecology or conservation.

“This outstanding course has helped many students to develop
a career in conservation. The range of skills taught provides a
really solid grounding in planning and implementing ecological
research, while the opportunity to work directly with conservation
organisations allows real-world conservation issues to be addressed
and employment and PhD opportunities to be enhanced.”

Becky Laidlaw, MSc Applied Ecology and Conservation Graduate
Who is the Course for?
Understanding the molecular and cellular mechanisms of disease is an important area of research in the 21st century. Massive steps forward in science, such as the completion of the Human Genome Project and the advent of stem cell technology means that diseases can now be studied at the cellular and molecular level. This will help to understand them, to develop treatments and possibly, in the future, cures.

The MSc in Molecular Medicine draws upon the world-renowned strength of research in biomedical sciences at UEA and across the Norwich Research Park. MSc graduate students will obtain skills that are sought in medical research, the pharmaceutical industry or the health services.

Course Content
The course will run over a year. The first half will be taught through face-to-face lectures, workshops, problem-based learning sessions and hands on experiments in our modern biomedical laboratories. These modules will provide the opportunity to learn skills in data analysis, laboratory working and report writing.

The second half of the programme will include a major research project where the student will design experiments and carry out research in a chosen topic. The project will provide an invaluable training environment to enhance research skills. It will be a substantial piece of work drawing on knowledge and understanding gained from the taught modules.

Taught modules include:
– Genetics, Genomics and Bioinformatics
– Data Handling Linked to Molecular Medicine
– Frontiers in Molecular Medicine
– Medical Biotechnology and Host: Pathogen Interactions
– Modern Experimental Techniques in Molecular Medicine.

Examples of research projects conducted by students on the course include:
– Looking for molecules that can be targeted in combination with v3-integrin in order to improve anti-angiogenic and anti-tumourigenic therapeutic outcomes
– The dark side of autophagy: a barrier to gene delivery?
– The role of the primary cilia in sonic hedgehog signaling and embryonic myogenesis
– Hazard assessment of engineered nanocarriers using in vivo and in vitro toxicity studies
– In vitro screening of antimicrobial plant extracts tested against Escherichia coli.

Employment Prospects
As well as learning fundamental theory, the student will develop valuable transferrable skills. The University will support this by providing personal development sessions including presentation skills, practice at interview skills, employability and time management. Our graduates have gone on to do PhDs both in the UK and overseas, to enter medical school and to work in the biomedical sciences.

Course Assessment
Assessment will be through a combination of exams, laboratory reports, coursework assignments, presentations and problem-based learning sessions. In addition, the research project will be submitted as a formal bound dissertation and assessed by external as well as internal examination.
Who is the Course for?
The course provides training for students wishing to undertake a further degree in plant molecular genetics, or alternatively, a career in plant breeding and crop improvement. It is organised jointly with the world-renowned John Innes Centre and provides a comprehensive insight into contemporary plant genetics and the theory and practice of crop improvement for the 21st century.

Course Content and Structure
The course focuses on current plant breeding practices and the application of new knowledge emerging from basic research in plant biology. The course is further enhanced by teaching from practising plant breeders, and visits to local breeding companies including Floranova, KWS and RAGT Seeds.

Modules include:
- Plant Breeding
- Genetics, Genomics and Bioinformatics
- Plant Genomics and Biotechnology
- Target Traits for Crop Improvement
- Statistics for Plant Science
- Practical Skills in Plant Molecular Genetics
- Research Project Plan
- Laboratory Research Project.

Employment Prospects
Many of our graduates undertake higher degrees across the Norwich Research Park and beyond in the area of plant biology or crop improvement. Others have secured employment as plant breeders in multi national and local plant breeding companies.

“Who is the Course for

The course provides training for students wishing to undertake a further degree in plant molecular genetics, or alternatively, a career in plant breeding and crop improvement. It is organised jointly with the world-renowned John Innes Centre and provides a comprehensive insight into contemporary plant genetics and the theory and practice of crop improvement for the 21st century.

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- Plant Breeding
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- Statistics for Plant Science
- Practical Skills in Plant Molecular Genetics
- Research Project Plan
- Laboratory Research Project.

Employment Prospects
Many of our graduates undertake higher degrees across the Norwich Research Park and beyond in the area of plant biology or crop improvement. Others have secured employment as plant breeders in multi national and local plant breeding companies.

I received excellent teaching on this course, both at UEA and at the John Innes Centre where I also worked on a research project and am now doing a PhD. I learned valuable skills in genetics, statistics, practical work and presentation – all invaluable for a research career.”

Mabon Ellis, PhD Student, John Innes Centre

“This MSc course is an excellent investment if you are looking for a career in plant science – with both research focused and industry orientated modules. I have no doubt that it helped me secure my position as Assistant Wheat Breeder at a leading international plant breeding company. There are a huge variety of external speakers giving plenty of chances to create contacts from different research institutes and from relevant companies, which is vital when moving on from education. The course also offers a six-month lab project with research groups at the JIC and UEA, both of which are held in high esteem both nationally and worldwide. Class trips to companies and events such as RAGT Seeds, KWS, NIAB and Cereals 2013 complement the research side and give insight into the more applied roles available. Overall the small group size and interactive lectures gave me a clear view of the industry I wanted to work in, preparing me with the genetics, research and organisational skills required, plus many more – the MSc has certainly been one of my proudest achievements yet.”

Joanna Halliwell, Assistant Wheat Breeder, RAGT Seeds
Chemistry was one of the first disciplines to be established at the University in the early 1960s. Since then the School has always maintained its position as one of the leading chemistry research centres in the UK, while retaining a friendly, open and relaxed environment.

Why Choose Us
Since the School was established it has undergone many changes. The last 10 years alone have seen the expenditure of more than £15 million on chemistry equipment and facilities, including refurbished teaching laboratories, helping the School provide an excellent environment in which to study chemistry. Our graduates are involved in major industries such as pharmaceuticals, foods, plastics, transport, health care, agrochemicals, education, science media and energy production. They are applying chemical techniques at the forefront of organic chemistry, atmospheric research, forensic science and security and medical imaging to name but a few.

Supportive Environment
On your arrival at UEA you will be assigned an adviser who will provide guidance for your academic career. Your adviser will be your research project supervisor. We have an 'open door' policy so that students can see their adviser (or other members of staff) at any mutually convenient time. The University also provides a wealth of specialist support services. Whatever the issue, be it financial, personal, academic or administrative, the Dean of Students' Office and the Students’ Union have experienced staff, support groups and advice centres to help you.

Top Flight Research
We have an enviable reputation for our distinguished tradition of high-quality research. Importantly, the creativity, resourcefulness and authority fostered by first-class research feeds directly into the quality of our teaching. Our research work is financed by multi-million pound grant holdings, won competitively from sources including the National Research Councils, the Royal Society, charitable trusts (including the Wellcome and Leverhulme Trusts and the Wolfson Foundation), industrial companies and the European Union. Key research in the School includes biological, nanoscience and forensic chemistry.

Research in chemistry represents each of the three core branches of the subject, but is also highly cooperative across them, resulting in three principal research themes.

Synthetic Chemistry research includes: methodology; biological and medicinal target molecule synthesis; synthesis of functional materials, and organometallics and polymerisation catalysts.

Physical and Analytical Chemistry research encompasses: theoretical method development; laser spectroscopy (with applications in surface science, biophysics and atmospheric chemistry); the development of 'smart' polymers and biosensors; bioanalytical chemistry; and mass spectrometry for forensic analysis.

Many of the faculty with interests in Synthetic and Physical and Analytical chemistry are members of the Wolfson Materials and Catalysis Centre.

Biophysical Chemistry research includes: the development and application of biophysical methods for studying biomolecules, including novel magneto-optical spectroscopy and direct voltammetric methods; high resolution structural methods; and protein biochemistry.

Several faculty members with interests in biological chemistry are members of the Centre for Molecular and Structural Biochemistry (CMSB), which incorporates the Henry Wellcome Laboratories for Biophysical Chemistry.

An important aspect of chemistry research at UEA is a collaborative spirit that has led to strong interactions not only across the three principal themes, but also with the School of Pharmacy, the other Science Schools, and the research institutes on the Norwich Research Park.

For more information on our research visit: www.uea.ac.uk/che/research
MSc Advanced Organic Chemistry

Who is the Course for?
Organic Chemistry is the central discipline that drives innovation across many diverse areas of the science and technology industry. The demands of contemporary research are such that advanced training beyond honours degree level is becoming increasingly necessary. The MSc Advanced Organic Chemistry is designed for students wishing to develop their knowledge and skills to prepare them for PhD study and/or employment in industry.

Course Content and Structure
The course runs over a full calendar year and begins with small group lectures, seminars and problem solving classes alongside advanced laboratory exercises designed to familiarise you with the research environment and train you in modern synthesis and spectroscopic techniques.

The taught programme will introduce you to areas of advanced organic chemistry relevant to tackling issues of current industrial and academic priority including:
- Synthesis and synthetic strategy
- Organic structure elucidation
- Natural products
- Physical organic chemistry
- Catalysis.

The programme centres on a substantial research project that begins following completion of the initial advanced laboratory exercises. You will join an active research group and carry out original research in purpose designed laboratories, presenting your work in an individual dissertation.

Research projects, which can be collaborations across groups, can be chosen to include work on new synthetic methods, asymmetric synthesis and catalysis, natural products, bio-organic chemistry, organic materials and organometallic chemistry.

Examples of recent projects conducted by students on this course include:
- Palladium catalysed reactions of allenes in organic synthesis
- Asymmetric organocatalysis
- Complex molecular materials based on porphyrins
- Synthesis of aziridines and application to natural product synthesis
- Adding value to natural resources through synthetic functionalization
- Organometallic catalysis using metalloccenes.

Employment Prospects
The knowledge and skills gained from the MSc Advanced Organic Chemistry ensure graduates are equally well placed to pursue a career in industry or to continue academic research. Many of our graduates continue to study for a PhD. Many then enter academic careers while others have secured industrial positions.

Course Assessment
Assessment is on the basis of coursework, presentation and research project dissertation.

“Examples of recent projects conducted by students on this course include:
- Palladium catalysed reactions of allenes in organic synthesis
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Course Assessment
Assessment is on the basis of coursework, presentation and research project dissertation.

Graduate Diploma in Chemical Sciences
The Graduate Diploma is a one-year course suitable for students who have studied a science degree but with chemistry content below that expected for UK BSc Chemistry courses. Programmes are individually designed by selecting modules from the undergraduate programme. Successful completion of the course equips students for further postgraduate study in chemistry.

“Examples of recent projects conducted by students on this course include:
- Palladium catalysed reactions of allenes in organic synthesis
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The School of Computing Sciences is one of the largest and most experienced computing schools in the UK. We offer excellent teaching, research, facilities and exciting course modules, creating a dynamic programme targeted at one of the most rapidly growing sectors of the job market.

Why Choose Us
- Our research is highly acclaimed, with 95 per cent of our work rated as world-leading, internationally excellent or recognised in the Research Assessment Exercise (RAE 2008);
- Our extensive high-quality facilities, include a specialised computer graphics and haptics laboratory, motion capture equipment, electronics hardware and Apple Macintosh lab all with cutting-edge resources;
- In 2013 our students reported very high levels of satisfaction with their courses as part of the Postgraduate Taught Experience Survey;
- Master’s programmes are accredited by the BCS – The Chartered Institute for IT;
- Some MSc projects may be carried out in collaboration with industry and may involve paid placements;
- The School is known internationally for its work in machine learning, statistics, computer vision, colour vision, computer graphics, speech processing, virtual humans, bioinformatics and computational biology;
- The School runs its own consultancy company, SYS Consulting, which helps reinforce links with industry and commerce.

Employment Prospects
Demand by employers for graduates in computing and technology continues to be high, and is growing as the economy recovers. An MSc gives you an extra edge in a job market that is already excellent, and salaries are among the highest on offer to university graduates. Our graduates work in diverse sectors, from industry, government and consultancy to education and research. The majority of our postgraduate taught students are in graduate-level employment within three months after completing their MSc degree.

Research Interests
Research is organised into three laboratories:

The **Computational Biology Laboratory** focuses on research spanning the biological hierarchy, from genome through to ecosystem. The laboratory provides an interdisciplinary environment for research and education, specialising in the computational and mathematical sciences. Areas of research include biological pattern recognition, protein structure, imaging, RNA bioinformatics, growth and development, phylogenetics, medical bioinformatics and systems biology. In addition to carrying out internationally-leading research with national and international partners, the laboratory has strong links with the School of Biological Sciences, the John Innes Centre, the Institute of Food Research, The Sainsbury Laboratory, The Genome Analysis Centre and the Norfolk and Norwich University Hospital.

The **Graphics, Vision and Speech Laboratory** addresses problems that range over analysis, recognition and generation of both images and speech. These technologies share theoretical foundations, and are integrated in our research on lip-reading, audio-visual speech synthesis and avatars. Our laboratories are equipped with fast graphics computers, spectrometers, 3D displays, haptic devices, a well-equipped soundproof recording booth and an eight camera video-based motion capture system. Recent notable successes include the development of the leading colour constancy and white balancing algorithms which have been implemented in a commercial camera; the ‘sieve’ algorithm for finding shapes within an image; and algorithms for music classification and recommendation that were placed top in an international competition. The group has spun out companies in the areas of image processing for art, colour image processing and water leak detection.

The **Machine Learning and Statistics Laboratory** combines researchers from Machine Learning, Data Mining and Statistics. Members are engaged in developing analysis approaches that use a combination of machine-learning and statistical techniques to exploit big data. Big Data has profoundly changed the way that research is done in areas such as health and social policy, as data from specially-designed studies has been superseded by much larger amounts of real data from sources such as the NHS, local government, businesses and social media. The group is involved in the new and exciting Data Research Centre for Smart Analytics led by the University of Essex, in partnership with UEA and the University of Kent, who together form the Eastern Academic Research Consortium (ARC). The Data Centre, funded by the Economic and Social Research Council (ESRC), will place all three universities at the forefront of the UK’s Big Data network. The group also has a long-standing collaboration with Aviva.

For more information on our research visit: [www.uea.ac.uk/cmp/research](http://www.uea.ac.uk/cmp/research)
MSc Advanced Computing Science

For further information T +44 (0) 1603 591515
E admissions@uea.ac.uk
www.uea.ac.uk/cmp

Length of Course:
1 year full time, 2 years part time

Entry Requirements
You should have or expect to obtain a good first degree (minimum 2:1 or equivalent) in computing science or have a significant computing background. Other degrees may be considered if they are supported by substantial relevant work experience. We are always happy to discuss your suitability for this course. International students should refer to page 38 or our website for English language requirements.

Fees and Funding
Details of our tuition fees and scholarships can be found on the fees and funding tab of individual course profiles at:
www.uea.ac.uk/cmp/pgt
www.uea.ac.uk/study/pgt/scholarships

How to Apply
See page 38.

Programmes of study are regularly reviewed and updated – for the most up-to-date course information, please see:
www.uea.ac.uk/cmp/pgt

“I found the MSc Advanced Computing Science a fascinating and enjoyable experience. The range of subjects covered and academic support were excellent, allowing me to tailor the course to my areas of interest. The skills and knowledge I gained allowed me to go on to a PhD at UEA but they would also be highly useful vocationally.”

David Cutting, MSc Advanced Computing Science Graduate

Who is the Course for?
This course provides great flexibility and enables computing science graduates to study a range of advanced topics and to work with the latest technology, linked to the School's research in areas such as Graphics, Vision, Speech, Games Development, Artificial Intelligence, Machine Learning, Data Mining, and Computational Biology. With help from a dedicated personal academic adviser, you can choose your modules from a wide range to build up either a more versatile or more focused and specialised programme, fitting your interest and needs.

Course Content and Structure
The full-time course runs over a full calendar year. The part-time alternatives enable you to study one or two modules per semester, depending on your work commitments and available time. You will take a mixture of compulsory and optional taught modules.

Compulsory modules include:
– Research Techniques
– Advanced Programming Concepts and Techniques
– Dissertation.

Optional modules include:
– Advanced Software Systems Developments
– Systems Engineering Issues
– Information Retrieval
– Computer Networks
– Distributed Computing
– Embedded Systems
– Computer Vision and Graphics
– Audio and Visual Processing
– Internet and Multimedia Techniques
– Artificial Intelligence and Algorithmics
– Data Mining.

Dissertation Projects
Examples of some recent dissertation projects conducted by our students on this course include:
– Simple GUI using a Kinect sensor
– 3D urban modelling
– Video ‘shot’ detection
– Virtual human and avatar technology
– Computerised lip-reading in non-English languages
– Finding speech prototypes for speech recognition
– An automatic lie detector
– Smartphone as a bicycle computer.

Employment Prospects
After completing this course, you will be equipped with highly advanced knowledge and skills in one or more areas, depending on your specialisation, which will lead to jobs such as consultant, software developer, system analyst or IT project manager. According to IT Jobs Watch: www.itjobswatch.co.uk (March 2014), the average salaries for consultancy or project management jobs are in excess of £50,000. The programme will also prepare you for a further research degree in computing sciences.

Course Assessment
Assessment is on the basis of coursework and exams (for a few modules) and a research project dissertation. Coursework can take the form of study on a designated topic, programming assignments, group development projects, and can be assessed by writing technical report, course tests, oral presentations and/or demonstrations.

MRes Computing Science
The one-year full-time MRes programme provides you with foundation training in the basic and advanced research skills necessary to enter a Doctoral programme. It is also suitable for those wanting to obtain a research-oriented degree, without committing to a longer period of study. The MRes pathway has a greater research element than the other MSc programmes offered by the School, whilst also giving you the opportunity to gain credit for the taught components. You will normally take three taught modules that are related to your area of specialism or that provide you with important background knowledge. You will also take a module in research techniques and a directed study module.
Who is the Course for?
The MSc Computing Science course is designed for graduates from non-computing subjects to study computer technologies and skills, allowing them to pursue careers in a range of computing areas. It starts by teaching you a set of core skills in programming, databases, internet technology and research techniques in the first semester and then allows you to choose from a range of optional advanced modules in the second semester. The programme will prepare you to become a multi-disciplined professional capable of fulfilling diverse roles in many fields of computing. Graduates from this course often find roles that use knowledge and skills from both their computing and their original degree.

Course Content and Structure
The full-time course runs over a full calendar year. The part-time alternatives enable you to study one or two modules per semester. You will take a mixture of compulsory and optional taught modules.

Compulsory modules include:
- Research Techniques
- Dissertation
- Applications Programming
- Database Manipulation
- Internet and Multimedia Technology.

Optional modules include:
- Advanced Software Systems Development
- Systems Engineering Issues
- Computer Networks
- Distributed Computing
- Artificial Intelligence and Algorithmics
- Data Mining.

Dissertation Projects
Examples of recent dissertation projects conducted by our students on this course include:
- Machine learning ensemble methods for big data mining
- Mobile app development – real time public transport information systems
- Developing a web application to enable simple multiplayer games
- Developing a data warehouse for managing patient records and clinical data
- Smart meter analysis for non-intrusive electricity load monitoring
- Predicting the results of tennis matches in real time.

Employment Prospects
As computers have become ubiquitous, there is an increasing demand for multi-disciplined professionals in the job market. After completing this course in combination with your original degree, you will have more flexibility and a greater range of skills than most single-discipline graduates. You can choose roles such as software developer, systems analyst, IT manager, project leader or manager or other roles that entail combinations of knowledge and skills from your first degree and computing. According to IT jobs watch: www.itjobswatch.co.uk (March 2014), jobs for developers have the highest number of vacancies and average salaries in excess of £42,500.
The programme will also prepare you for a further research degree in computing science and related areas.

Course Assessment
Assessment is on the basis of coursework, exams and a research project dissertation. Coursework is varied and interesting and can take the form of essays, programming assignments, presentations, group projects, course tests or data analysis tasks.

“I believed I made the right choice to study the MSc Computing Science course at this University. The skills and confidence I gained from it prepared me to take on new challenges in the future and helped me to land a good job with China Mobile the world’s biggest mobile service operator.”

Sa Xiao, MSc Computing Science Graduate

MSc Computing Science

Length of Course:
1 year full time, 2 years part time

Entry Requirements
You should have or expect to obtain a good first degree (minimum 2:1 or equivalent) in any subject other than computer science or information technology. We are always happy to discuss your suitability for this course. International students should refer to page 38 or our website for English language requirements.

Fees and Funding
Details of our tuition fees and scholarships can be found on the fees and funding tab of individual course profiles at:
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How to Apply
See page 38.

Programmes of study are regularly reviewed and updated – for the most up-to-date course information, please see:
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E admissions@uea.ac.uk
www.uea.ac.uk/cmp
MSc Games Development

Who is the Course for?
This is a specialist MSc programme largely dedicated to programming for the computer games, design, special effects and entertainment industries. Therefore, it is essential that the applicant has a thorough knowledge of a third generation language (preferably C/C++). Additional knowledge of graphics APIs such as OpenGL or Direct3D is desirable but not essential.

Course Content and Structure
The course runs over a full calendar year. You will take a mixture of compulsory and optional taught modules. The compulsory modules cover advanced programming skills and computer games development using state-of-the-art tools and technology, including motion capture, 3D viewing, haptic feedback, etc. The optional modules give you the opportunity to further update your skills in graphics and games-related subjects.

Compulsory modules include:
– Advanced Programming Concepts and Techniques
– Computer Games Laboratory
– Research Techniques
– Dissertation.

Optional modules include:
– Artificial Intelligence and Algorithmics
– Audio and Visual Processing
– Computer Graphics
– Computer Vision (for Digital Photography)
– Embedded Systems
– Human Computer Interaction.

Research Projects
Examples of recent research projects conducted by students on this course include:
– Virtual humans for crowd simulation
– A mobile application for exploring historic pathways
– Modelling of fluids in a virtual environment
– Designing a generic multi-platform software for graphics simulations
– Vehicle simulation in a computer game.

Employment Prospects
This MSc gives you an excellent preparation for a career in the graphics, games and special effects industries. We also participate in the yearly Search for a Star games programming competition organised by Aardvark Swift.
www.aswift.com

Simply participating will surely increase your job prospects in the games industry!
The programme will also prepare you if you are considering a research degree in computer graphics or related subjects.

Course Assessment
Assessment is on the basis of course work and exams (for a few modules) and a research project dissertation. Coursework is varied and interesting and can take the form of essays, programming assignments, presentations, group projects, course tests or data analysis tasks.

Research Projects
Examples of recent research projects conducted by students on this course include:
– Virtual humans for crowd simulation
– A mobile application for exploring historic pathways
– Modelling of fluids in a virtual environment
– Designing a generic multi-platform software for graphics simulations
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www.aswift.com

Simply participating will surely increase your job prospects in the games industry!
The programme will also prepare you if you are considering a research degree in computer graphics or related subjects.

Course Assessment
Assessment is on the basis of course work and exams (for a few modules) and a research project dissertation. Coursework is varied and interesting and can take the form of essays, programming assignments, presentations, group projects, course tests or data analysis tasks.

Pantelis Lekakis, MSc Games Development Graduate

“This course provided new career opportunities for me through its module diversity and variety of technologies studied. Thanks to my lecturers, I took part in the games development competition Search for a Star, where I came second, certainly helping me gain a position as a graphics programmer for Neon Play, one of the UK’s best mobile game studios.”

For further information
T +44 (0) 1603 591515
E admissions@uea.ac.uk
www.uea.ac.uk/cmp

Length of Course:
1 year full time, 2 years part time

Entry Requirements
You should have or expect to obtain a good first degree (minimum 2:1 or equivalent) in computer science, engineering, mathematics or physics with additional programming experience or equivalent qualifications and experience. We are always happy to discuss your suitability for this course. International students should refer to page 38 or our website for English language requirements.

Fees and Funding
Details of our tuition fees and scholarships can be found on the fees and funding tab of individual course profiles at:
www.uea.ac.uk/cmp/pgt
www.uea.ac.uk/study/pgt/scholarships

How to Apply
See page 38.

Programmes of study are regularly reviewed and updated – for the most up-to-date course information, please see:
www.uea.ac.uk/cmp/pgt
This course is the longest-established taught MSc in the School of Computing Sciences. Graduates from the course have gone on to a wide range of careers all around the world.

Who is the Course for?
This is a specialised MSc programme offering a comprehensive understanding of the role of information systems in contemporary organisations. The course covers a range of topics, from requirements analysis, data analysis, the management of the software process, to usability issues and systems development. The flexible part-time options enable students to undertake the degree on day release from a full-time job.

Course Content and Structure
The full-time course runs over a full calendar year. The part-time alternatives enable students to study one or two modules per semester. You will take a mixture of compulsory and optional taught modules.

Compulsory modules include:
- Information Systems Issues
- Systems Engineering.

Optional modules include:
- Information Retrieval
- Human Computer Interaction
- Database Manipulation
- Internet and Multimedia Technologies
- Data Mining.

We have good links with a range of organisations, who help us with guest speakers, case studies and examples. Recent instances of these links include a session on a developer’s perspective on mobile apps development, a large company’s experiences of outsourcing and a usability evaluation for an international HR and survey company. These links give students access to expertise and experience of current issues and concerns from practitioner and user perspectives.

Research Projects
Examples of recent projects conducted by students on this course include:
- Social media usability
- Mobile phone usage
- Search strategies for finding academic resources
- Barriers to e-commerce development.

Employment Prospects
This MSc gives you excellent preparation for a career in information systems development and management and in the wider area of business intelligence. It will prepare you for jobs such as: systems analyst, business intelligence analyst, user experience specialist and consultant. These are all growth areas where well-qualified graduates have a range of interesting (and well-paid) opportunities. The programme will also prepare you for a further research degree in the field.

Course Assessment
Assessment is on the basis of course work and exams (for a few modules) and a research project dissertation. Coursework is varied, including presentations, case studies, behavioural observation, experimental projects, data analysis and essays. Many of the case studies, usability evaluations and other assignments arise from collaborative work we do with other organisations.
Who is the Course for?
This is a specialised MSc programme offering a comprehensive understanding of the role of data in modern business, its collection, maintenance, access and analysis. The set of analysis techniques covered includes statistics, data mining, information retrieval and optimisation. They have application potential in areas as diverse as finance, medicine, biology and the environment.
The programme prepares you for a career in data analysis, with excellent prospects and salary. The flexible part-time options enable you to undertake the degree on day release from a full-time job.

Research Projects
Examples of some recent research projects conducted by students on this course include:
– Data mining analysis to understand cross-purchasing patterns (with Virgin Money)
– Analysis of students’ performance and employability (with the UEA Business Intelligence Unit)
– Classification of hand radiographies and bone outlines
– High content and high throughput bio-image analysis (with The Sainsbury Laboratory)
– Text mining analysis of survey data (with the Norfolk Police and Crime Commissioner’s Office).

Employment Prospects
This MSc gives you excellent preparation for a career in data mining and in the wider area of business intelligence. It will prepare you for jobs such as: data analyst, data scientist, data miner, business intelligence developer and consultant. There is a shortage of skilled data scientists as this is a relatively new area experiencing exponential job growth.
According to: www.itjobswatch.co.uk, data analysis jobs have average salaries in excess of £40,000. The programme will also prepare you for a further research degree in Knowledge Discovery and Data Mining.

Course Assessment
Assessment is on the basis of course work and exams (for a few modules) and a research project dissertation. Coursework is varied and interesting and can take the form of essays, programming assignments, presentations, group projects, course tests or data analysis tasks.

“I can thoroughly recommend this course. It has given me a fascinating insight into the management of large databases as well as a grounding in programming, statistics and artificial intelligence. The teaching is excellent, and the course is organised to a high standard.”
Dr Margaret Robins, MSc Knowledge Discovery and Data Mining Graduate
“As an international student, settling in at UEA was easy. Its beautiful location and artistic campus structures, together with the various learning-enhancement resources available, especially the 24/7 Library facility, means an academic and social environment is enjoyable to everyone.”
Tolu Ogundare, MSc Graduate

Why Choose Us

– Strong links with the 400 member companies of the East of England Energy Group and Skills for Energy;
– Students may have the opportunity to spend up to three months in a company working on an industrial project;
– From day one commercial awareness is embedded within the degree when students present their ideas on commercial risk to an invited panel of experts;
– To facilitate part-time study, most modules are taught on a single day of the week;
– Practising engineers as visiting lecturers enhance modules with up-to-date industry information and case studies;
– Site visits to consultancy offices, power stations, energy manufacturers process and plants;
– New teaching and learning laboratories support and enhance the student experience;
– A student-led Engineering Society provides further social activities.

Engineering at UEA

The School of Mathematics, and Engineering within it, are accommodated on two floors of the Science building. The School library has an extensive collection of books and a wide range of major journals is taken by the University library. An excellent range of computing facilities is available, from Unix/Linux, Apple and Windows computers within the School to a state-of-the-art high performance computing cluster.

In 2011 a brand new Engineering unit was created within the School of Mathematics and the first cohort of MSc students admitted. The strategic plan involves establishing high-quality research groups and a suite of engineering undergraduate and postgraduate programmes to support the rapidly growing need for engineering graduates in the region and internationally. There is a long-term vision for the creation of a School of Engineering to expand in this vital area.

The potential for growth of provision in energy engineering, and in subjects such as chemical, civil, mechanical engineering and other engineering disciplines, is stimulating a lot of interest in the region. There are also opportunities for exploiting the industrial links in the region with industry-sponsored research focused on energy-related challenges associated with onshore and offshore developments. Other areas of growth include mechanical and automotive, agritech, marine and aviation.

Energy on Campus

The UEA Estates Division has been at the forefront of low energy building procurement and operation for some 20 years starting with the Elizabeth Fry Building, completed in 1994, which won a CIBSE Probe Award for its energy performance coupled with the best occupier satisfaction score. A capable team of Estates staff willingly explain to students how the campus energy networks work.

UEA has continued with its low energy strategy ever since and as a consequence won the first ever Low Energy Building of the Year Award in 2005 for the Zuckerman Institute for Connective Environmental Research building. The School benefits from this campus culture.

Teaching

In September 2011 the School admitted its first students on the MSc in Energy Engineering with Environmental Management, which was created as a direct response to a shortage of postgraduates in the energy industry.

Teaching is supported by a team of staff from across the faculty, a Royal Academy of Engineering visiting professor of innovation and honorary and visiting lecturers with specific industrial experience. Engineering laboratory provision includes fluid mechanics, structures, materials and electrical and electronic engineering.

Industry Interaction

The significant involvement of industry in delivering the taught programmes includes case studies, site visits, breakfast meetings, attendance at energy conferences and networking events, and donations for equipment and prize funds. Work-based placements and project work are also supported. The Industrial Advisory Board consists of a number of senior professional engineers who meet regularly to support the staff in ensuring that the taught material represents current industry thinking.

Research

Energy-related research strengths in the Faculties of Science and Social Sciences underpin the developments in Energy Engineering including software engineering, bioenergy, energy in the built environment, energy engineering, energy economics and finance, energy meteorology, energy policy, energy in the climate system, renewables, fossil energy and carbon capture and energy materials.
MSc Energy Engineering with Environmental Management

For further information  
T: +44 (0) 1603 591515  
E: admissions@uea.ac.uk  
www.uea.ac.uk/eng

Length of Course:  
1 year full time, 2, 3 or 4 years part time

Entry Requirements  
You should have, or expect to obtain, a good first degree (minimum 2:1 or equivalent) in a relevant subject and a solid grounding in mathematics equivalent to at least UK A level. Students who are unsure about the suitability of their mathematics qualifications should contact us for further guidance. International students should refer to page 38 or our website for English language requirements.

Fees and Funding  
Details of our tuition fees and scholarships can be found on the fees and funding tab of individual course profiles at:  
www.uea.ac.uk/eng/courses  
www.uea.ac.uk/study/pgt/scholarships

How to Apply  
See page 38.

Programmes of study are regularly reviewed and updated – for the most up-to-date course information, please see:  
www.uea.ac.uk/eng/courses

"UEA's unique course addresses a real need in today’s corporate world. Energy management professionals need to be as comfortable in the boardroom discussing environmental impacts and sustainability as they are in a plant room driving efficiency with modern technology. Being qualified in both areas represents a tremendous opportunity for students."

Greg Luxford, Aviva Group, Carbon and Utilities

Who is this Course for?  
Whether you have completed a scientific first degree and are looking to develop career opportunities in a different and vibrant field, or you have completed a BEng and wish to top up to secure your path to chartered engineer status, this degree is for you. A range of transferable skills from intense teamwork, through challenging mathematical and spreadsheet applications to concise technical writing prepares you for the world of engineering work. The dissertation often involves a work placement and provides that much needed industry experience essential in today's job market.

Course Content and Structure  
The course runs over a full calendar year. This programme combines investment in engineering with existing and substantial engineering expertise across the Faculty of Science in the fields of applied mathematics, energy resource, environmental management, low-carbon energy, biofuels and electronic engineering. The programme has been developed in partnership with industry and employers, through close collaboration with the East of England Energy Group, and aims to address the national and regional shortage of high-calibre qualified graduates in the field of energy engineering.

Compulsory modules include:  
- Energy Engineering Fundamentals  
- Fossil Fuels  
- Electrical Energy Generation, Distribution and Storage  
- Wind Energy Engineering  

Optional modules include:  
- Theory of Environmental Assessment  
- Wave, Tidal and Hydro Energy Engineering  
- Environmental Assessment Effectiveness  
- Applications Programming  
- Topics in Energy Engineering (choice)  
- Energy Futures.

"The course allowed me to develop knowledge from my undergraduate degree into skills required by industry, providing a route into employment in the energy sector."

Peter Kerrison, MSc Graduate

"Through the course I secured contacts, work experience and a job with a company in the East of England Energy Group."

Matthew Henderson,  
MSc Graduate

Professional Development  
Students are provided with opportunities for networking throughout their studies such as attendance at conferences and exhibitions, breakfast meetings, gala dinners, site visits and branch meetings.

Professional Accreditation  
The UK Energy Institute has accredited our courses as meeting the academic requirements of the Engineering Council (UK) for further learning towards registration as a Chartered Engineer (CEng). We therefore welcome applications from graduates with IEng accredited Bachelor’s degrees wishing to develop their career towards CEng.

Employment Prospects  
All of our engineering postgraduates so far have secured jobs within the energy engineering industry. Our current students are securing dissertation placements with major local and national companies. They are uniquely placed to use their broad awareness of the range of engineering disciplines that impact on energy resource development in design and management roles throughout the sector.

"The Topics in Energy Engineering modules provide an opportunity to complete a guided study of an energy-related topic that either expands on the knowledge gained in the compulsory modules or introduces a completely new topic. Recent examples include developments in nuclear power, projections of shale gas production, decommissioning coal-fired power stations, challenges of exploiting oil and gas under the arctic ice and battery health monitoring."

Matthew Henderson, MSc Graduate

Matthew Henderson,  
MSc Graduate
Environmental scientists have never been in greater demand. It is widely acknowledged that in the next few decades, particularly given the consequences of climate change, societies will increasingly need individuals who understand the challenges of sustainable development and who have the experimental, numerical and verbal skills necessary to engage critically in these debates. In the School of Environmental Sciences at UEA, all our students graduate with these capabilities.

We are one of the longest established departments of environmental sciences anywhere in the world and the largest in the UK. When the University of East Anglia was established 50 years ago it developed the novel concept of bringing together physical and social scientists from a wide variety of disciplines to study the natural and human environment. This approach to understanding the environment is now regarded as part of the mainstream in academia. Our academics are at the forefront of research into global and local environmental change, working across all elements of the Earth’s system, in order to help societies around the world better maintain their regional environment.

The School continues to build and develop on this strong legacy and now enrols some 150 undergraduates every year and has 150 PhD and 40 Master’s students from all over the world.

Why Choose Us
The human population exceeded seven billion in 2012 and immense challenges face our planet. Demands on energy, transport and technology set against the backdrop of climate change, eroding biological diversity and natural hazards threaten the security of the most vulnerable people on the planet. We aim to train environmental scientists to tackle these problems.

We offer three main MSc degrees: the broad-based Environmental Sciences degree and the more specialised programmes in Climate Change and Environmental Assessment Management. Students taking the MSc in Environmental Sciences can choose from a wide range of modules across the full breadth of environmental sciences or can opt to follow one of two pathways on specific aspects of sustainability: Science, Society and Sustainability or Ecology and Economics for Sustainability. We also host students on the Erasmus International Master’s in Applied Ecology.

Our Teaching
As a large School, with around 90 Faculty and Research Fellows we can teach over the broad range of disciplines with lecturers who are at the forefront of their subjects. The School of Environmental Sciences achieved a 96 per cent satisfaction rate in the 2013 National Student Survey.

Courses are taught through a mixture of lectures and practical classes in seminars, labs and the field, with typically 15-18 hours contact time a week. A third of the assessment for the MSc courses is related to a major research project.

Our Research and Facilities
We have major global influence when it comes to our research. Ninety five per cent of research activity was classified as world leading or internationally excellent/recognised in the Research Assessment Exercise (2008), and we have world-renowned research centres located in the School. These include the Climatic Research Unit, the Tyndall Centre for Climate Change Research, the Centre for Ocean and Atmospheric Science and the Centre for Social and Economic Research on the Global Environment. Our research is underpinned by excellent, well-funded facilities that provide many opportunities for MSc students in their research projects. For more information on our research visit: www.uea.ac.uk/env/research

Careers and Employability
Our MSc degrees are intrinsically linked to employability and putting theory into practice. The School of Environmental Sciences has well-established links with some of the biggest industry names, who work alongside us in shaping our students for the job market.

Our graduates have excellent career prospects. The majority find graduate employment, for example in environmental management and conservation, local and central government agencies, environmental consultancy, weather forecasting, government and university research, geophysical services, the energy sector, oil industries and the water industry. A large proportion of our MSc students go on to study for PhDs.
MSc Environmental Sciences

For further information T +44 (0) 1603 591515
E admissions@uea.ac.uk
www.uea.ac.uk/env

Length of Course:
1 year full time, 2 years part time

Entry Requirements
You should have or expect to obtain a good first degree (minimum 2:1 or equivalent) in geography, earth and environmental sciences or related disciplines. The course is also suitable for graduates with single-discipline degrees in chemistry, physics, biology, mathematics, computing, engineering, economics and politics.

International students should refer to page 38 or our website for English language requirements.

Fees and Funding
Details of our tuition fees and scholarships can be found on the fees and funding tab of individual course profiles at:
www.uea.ac.uk/env/pgt
www.uea.ac.uk/study/pgt/scholarships

How to Apply
See page 38.

Programmes of study are regularly reviewed and updated – for the most up-to-date course information, please see:
www.uea.ac.uk/env/pgt

Who is the Course for?
This interdisciplinary course is designed to provide a flexible structure suitable for those seeking to gain greater in-depth training in environmental sciences. The programme allows you to choose from several areas of expertise including earth sciences, atmospheric sciences, oceanography, ecology and soils, and social sciences and forms an ideal platform either for continuation to doctoral research or for direct access into environmental science related employment.

Course Content and Structure
The full-time option of the course runs for one year starting towards the end of September. You will take a combination of taught modules during the autumn and spring semesters with the summer spent on an individual research project. In addition to core modules, you will be able to choose from a broad range of optional modules. The part-time course option runs for two years with the Research Skills module in the first year and the Dissertation module in the second and the same number of optional modules as in the full-time option is spread over two years.

Environmental, climate and social scientists in the School of Environmental Sciences conduct most of the teaching, with contributions from leading policy and industry experts.

Compulsory modules are:
- Research Skills
- Dissertation Project.

Optional modules include:
- Modelling Environmental Processes
- Biodiversity Conservation and Sustainability
- Ecological Responses to Climate Change
- GIS for Ecology and Environmental Management
- Climate Change: Physical Science Basis
- Science, Society and Sustainability
- Research Topics in Earth Science
- Environmental Assessment Effectiveness
- Theory of Environmental Assessment
- Energy and Climate Change
- Ecological Modelling and Statistics
- Sustainable Consumption
- Atmospheric and Oceanic Composition: Measurement and Modelling
- Stable Isotope Geochemistry
- Pollution, Toxicology and Chemistry
- Geoengineering the Climate
- Energy and Sustainability
- Economics and Ecosystem Services.

Research Projects
Examples of some recent research projects conducted by students on this course include:
- The effect of ocean acidification on coral reef ecosystems and its future direction;
- Studying the seeds of sustainability. An investigation into the composition of behavioural factors influencing the reasons for participation in a sustainable initiative: A case study of the Grow-Our-Own Project;
- Application of clumped isotope thermometry on Sea Mere Lake sediment carbonate to recover palaeoclimate signal throughout the last 700 years;
- How does the net present value of a combined heat and power woodchip gasifier vary with location? A social cost-benefit analysis of small-scale biomass in England using the University of East Anglia as a case study.

Employment Prospects
The MSc in Environmental Sciences will offer you a range of subjects to choose from and a wide array of career options, both in postgraduate research and vocational employment. Our flexible course structure suits both students seeking to gain additional training in environmental sciences and non-environmental science graduates from related areas seeking to widen their environmental knowledge and skills.

Course Assessment
Assessment is on the basis of coursework, practical field work, and exams (depending on the chosen modules) and a research project proposal and dissertation.

Please see page 28 for more information on our MSc Environmental Sciences Pathways.

“The course met all my expectations and more – teaching staff are knowledgeable, committed and enthusiastic, going out of their way to help students reach their potential. The course is challenging and varied, with a range of modules that teach and develop scientific skills, plus a dissertation which is a great opportunity to pursue a new interest with the support of world-class researchers.”

Cecilia Liszka, MSc Environmental Sciences Student
The School of Environmental Sciences is home to leading researchers in the field of the environment and sustainability. Their research is interdisciplinary, bridging natural and social sciences and draws on their expertise in conservation, economics, human geography and political science.

MSc Environmental Sciences
(Science, Society and Sustainability)
(Ecology and Economics for Sustainability)

Length of Course:
1 year full time, 2 years part time

Entry Requirements
You should have or expect to obtain a good first degree (minimum 2:1 or equivalent) in geography, earth and environmental sciences or related disciplines. The course is also suitable for graduates with single-discipline degrees in chemistry, physics, biology, mathematics, computing, engineering, economics and politics.

International students should refer to page 38 or our website for English language requirements.

Fees and Funding
Details of our tuition fees and scholarships can be found on the fees and funding tab of individual course profiles at:
www.uea.ac.uk/env/pgt
www.uea.ac.uk/study/pgt/scholarships

How to Apply
See page 38.

Programmes of study are regularly reviewed and updated – for the most up-to-date course information, please see:
www.uea.ac.uk/env/pgt

Who is the Course for?
To meet the demand for training in the skills required to address the challenges of sustainability, and recognising the research strengths that we have in this field, we have developed two pathways on this topic through our MSc in Environmental Sciences:
– MSc in Environmental Sciences
  (Science, Society and Sustainability)
– MSc in Environmental Sciences
  (Ecology and Economics for Sustainability). Each of these pathways focuses on a particular aspect of sustainability, whilst still applying an interdisciplinary approach.

Science, Society and Sustainability
Who is this Pathway for?
This pathway is for students interested in working in the field of sustainability across a range of governance levels – local, regional, national and international. It is designed for students looking to acquire advanced level skills to enable them to meet the sustainability challenges they will encounter in the public sector, NGOs and business. It is also geared towards research oriented students keen to develop their skills and explore processes of social change, science and sustainability in a world-leading research group Science, Society and Sustainability (3S).

Pathway Content and Structure
Compulsory modules are:
– Science, Society and Sustainability
– Sustainable Consumption
– Research Skills
– Dissertation Project.
Optional modules can be chosen from the range offered for the MSc in Environmental Sciences, see page 27.

Research Projects
Projects are carried out within the world-leading research group 3S or with sustainability-orientated organisations, offering academic research experience in the field, and allowing students to get a track record of working in the sector.

Employment Prospects
There are a wide range of diverse career options for graduates of this course in public, private and third sector organisations working for sustainability at local, regional, national and international scales. The course will also provide excellent training for a research career in academia or other sectors. Graduates will gain skills required for: designing and implementing sustainability initiatives, social research, survey design, social marketing, environmental reporting, participatory research, facilitation of public and stakeholder engagement, risk communication and environmental education.

Ecology and Economics for Sustainability
Who is this Pathway for?
This pathway is for students looking to deepen and enhance their knowledge and skills on natural resources and sustainability, or who wish to develop a research career in the management of natural resources. It delivers advanced level teaching aimed at assessing scientific evidence that supports sustainable management of natural resources, developing an understanding of the economic, social, political and legal frameworks for sustainability, and identifying future priorities for sustainable management of natural resources.

Pathway Content and Structure
Compulsory modules are:
– Biodiversity Conservation and Sustainability
– Economics and Ecosystem Services
– Research Skills
– Dissertation Project.
Optional modules can be chosen from the range offered for the MSc in Environmental Sciences, see page 27.

Research Projects
We have world-leading experts in ecology and environmental economics able to supervise projects on sustainability. This includes staff from the Centre for Social and Economic Research on the Global Environment (CSERGE), which is a leading interdisciplinary research centre in the field of sustainable development and decision making.

Employment Prospects
The degree will give students a range of skills (for example, GIS, experimental design, economics and ecosystem services) and experience of case studies on the management of natural resources (such as fisheries, forestry and game species).
“Studying the MSc in Climate Change at UEA was a great opportunity, both professionally and personally. Thanks to the experience, I found a job that really fulfils my expectations – and I also met some great people that have become some of my best friends.”

Javier Sabogal Mogollón, MSc Climate Change Graduate

Who is the Course for?
This course, based at the Climatic Research Unit in the School of Environmental Sciences, is designed to provide you with in-depth interdisciplinary knowledge of climate change science, society and policy. Climate change and variability have played major roles in shaping human history and the prospect of global warming as a result of human activities presents society with increasing challenges over the coming decades. This course provides an authoritative assessment of the subject, including recent climate history, present-day variations and climate prediction, the ways in which climate change may impact on the environment and society, and the interplay between climate science, energy and policy development. Its temporal focus spans the last 2,000 years through to the 21st century, with particular emphasis on contemporary issues. You are encouraged to interact with the course content through a series of student-led debates.

Course Content and Structure
The course covers the fundamentals of the changing climate, including the Earth's energy balance, causes of climate change and variability and the greenhouse effect. You will also learn about research methods, consisting of empirical approaches to climate reconstruction (such as tree ring analysis), data preparation and analysis, detection of anthropogenic changes and model-based approaches to climate prediction. You will study the evidence and causes of recent climate change, including the atmospheric build-up of greenhouse gases and its consequences for the behaviour of the Earth's system.

You will explore and evaluate projections of social and technological change represented in climate change mitigation scenarios, with an emphasis on transformative change in energy systems. The course considers the climate change impacts associated with future socioeconomic scenarios, looking particularly at impacts on hydrology and agricultural systems. These interact with both mitigation and adaptation responses to climate change and make necessary an integrated assessment of the complex relationships between energy, land, water and climate. The course bases much of the teaching material on the most recent reports of the Intergovernmental Panel on Climate Change. You will take a combination of taught modules during the autumn and spring semesters, followed by an individual research project. There are four compulsory modules, taught by members of the Climatic Research Unit and the Tyndall Centre, and you choose three more from a broad range of options.

Compulsory modules are: Climate Change: The Physical Science Basis; Energy and Climate Change; Research Skills; Dissertation Project.

Optional modules include: Climate Change Policy and Development; Modelling Environmental Processes; Biodiversity Conservation and Sustainability; Ecological Responses to Climate Change; GIS for Ecology and Environmental Management; Science, Society and Sustainability; Research Topics in Earth Science; Environmental Assessment Effectiveness; Theory of Environmental Assessment; Ecological Modelling and Statistics; Sustainable Consumption; Atmospheric and Oceanic Composition: Measurement and Modelling; Stable Isotope Geochemistry; Pollution, Toxicology and Chemistry; Geengineering the Climate; Energy and Sustainability and Economics and Ecosystem Services.

Research Projects
Examples of some recent research projects conducted by students on this course include:
- UK tree phenology and its relationship to climate, past and present
- Local community responses to climate change in Chiang Mai, Thailand
- Mainstreaming climate change adaptation policies within the National Development Plan in Egypt
- Sub-tropical temperature and salinity variations in the Gulf Stream during abrupt climate variability.

Employment Prospects
The course content equips our graduates for careers in areas as diverse as business, environmental and engineering consultancies, local and national government agencies, meteorological and climate services and academia. Many go on to study for research degrees.

Course Assessment
Assessment is on the basis of coursework, exams (for some optional modules), a research project proposal and a dissertation.
MSc Environmental Assessment and Management

Who is the Course for?
This vocational course provides training in the key environmental management skills of environmental assessment at all levels of decision making, and of sustainability appraisal. It focuses on both the theory of environmental assessment, and its effectiveness in practice.

Course Content and Structure
The course runs for one year starting towards the end of September. You will take a combination of taught modules during the autumn and spring semesters with the summer spent on an individual research project. In addition to core modules, you will be able to choose from a broad range of optional modules.

The compulsory modules focusing on environmental assessment are taught by an experienced member of staff who is a member of the Institute of Environmental Management & Assessment’s Quality Mark panel, and advises the Nuclear Decommissioning Authority on environmental and sustainability assessment in relation to the Managing Radioactive Waste Safely programme.

Compulsory modules are:
- Theory of Environmental Assessment
- Environmental Assessment Effectiveness
- Research Skills
- Dissertation Project.

Optional modules include:
- Modelling Environmental Processes
- Biodiversity Conservation and Sustainability
- GIS for Ecology and Environmental Management
- Climate Change: Physical Science Basis
- Science, Society and Sustainability
- Research Topics in Earth Science
- Energy and Climate Change
- Ecological Modelling and Statistics
- Sustainable Consumption
- Stable Isotope Geochemistry
- Pollution, Toxicology and Chemistry
- Geoengineering the Climate
- Energy and Sustainability
- Economics and Ecosystem Services.

Research Projects
Research projects conducted by students on this course over the years can be viewed (and in many cases downloaded) from: www.uea.ac.uk/env/all/teaching/eiaams/dissertations.htm

More recent examples include:
- Reviewing the consideration of health issues in SEA/SA in England: limitations, opportunities and recommendations
- The transition of ecosystem services into impact assessment: perceptions from the oil and gas sector
- Investigation of faecal indicator organisms and their controlling factors in the River Wensum catchment.

Employment Prospects
The course has been specifically designed to align with the Institute of Environmental Management and Assessment’s Skills Map (www.iema.net/skills), which is increasingly the basis for staff development programmes within environmental consultancies. All those completing the course successfully will possess all the graduate entry skills, and some operational and some specialist skills.

Course Assessment
Assessment is on the basis of coursework, assessed presentations, practical field work, and exams (for a few optional modules) and a research project proposal and dissertation.

“When applying for my job, my MSc was invaluable at helping me secure it. It not only provided the necessary skills required but also demonstrated my commitment and interest in that area. The core modules provide a good grounding in the discipline with the wide range of module choices helping tailor the course so it fits personal interests and future career plans.”

Philippa Richardson, United Utilities

Length of Course:
1 year full time, 2 years part time

Entry Requirements
You should have or expect to obtain a good first degree (minimum 2:1 or equivalent) in a related discipline and/or relevant work experience. Related disciplines cross the sciences, social sciences and arts. Please contact us if you are unsure about the suitability of your background. International students should refer to page 38 or our website for English language requirements.

Fees and Funding
Details of our tuition fees and scholarships can be found on the fees and funding tab of individual course profiles at:
www.uea.ac.uk/env/pgt
www.uea.ac.uk/study/pgt/scholarships

How to Apply
See page 38.

Programmes of study are regularly reviewed and updated – for the most up-to-date course information, please see:
www.uea.ac.uk/env/pgt

For further information
T +44 (0) 1603 591515
E admissions@uea.ac.uk
www.uea.ac.uk/env
We are one of the top pharmacy schools in the country and currently the number one English School of Pharmacy in the Guardian University Guide 2014. Over the past five years we have been consistently ranked within the top six in all major university league tables for pharmacy and pharmacology.

Learning is facilitated by a mixture of academic and practising pharmacists who are dedicated specialists in their field and so you can be sure of access to the most up-to-date clinical and operational pharmacy knowledge as well as novel teaching and learning techniques to help you get the most out of your study sessions. We work closely with employers to ensure that we are helping to shape the pharmacists required in our workplaces locally and in the pharmacy workforce nationally.

World-Class Research
Our pharmacy department is one of the top 10 Schools in the UK for research quality, as confirmed by the 2008 government-run Research Assessment Exercise. This in turn means that we can deliver cutting edge information to our students and can also offer state-of-the-art facilities for research-based project work. A close relationship with institutes of the Norwich Research Park and the Norfolk and Norwich University Hospital provides research opportunities in food and plant related science, health, chemical and structural biology, bioanalysis and biotechnology.

Our research is highly innovative in its breadth of topics. All aspects of pharmacy-related research are covered – from molecular pharmacology and drug design, pharmaceutical technology and process, through to professional practice, service and health policy research.

Research is focused on four broad themes, although much of our research is cross-disciplinary in nature and collaborations between the sections are common. The four research themes are:

Drug Delivery and Pharmaceutical Materials
Research in this area focuses on the development of novel drug delivery systems based on a fundamental understanding of their structure and properties. The research grouping is internationally recognised for developing applications of state-of-the-art analytical (such as solid-state NMR, thermal methods and atomic force microscopy) and modelling tools within the pharmaceutical sciences. Other key areas of research in the group include development of new nanoporpharmaceuticals, materials for pulmonary delivery (including peptides), and polymer-based pharmaceutical dispersions.

Medicinal Chemistry
Research has a strong focus at the chemistry-biology interface, ranging from the synthesis of natural products and classical medicinal chemistry through to new approaches to drug delivery vehicles and the discovery and study of new microbial drug targets at the molecular level. Natural products form a key starting point for the synthesis of new agents and biological targets include protein-protein interactions, enzymes and nucleic acids. Supramolecular compounds are being investigated as potential delivery systems for DNA, siRNA and small molecules.

Medicines Management
Medicines management research is designed to optimise the use of medicines in patients, with a focus on improving the selection and monitoring of medicines and on enhancing patient medicine taking behaviour. The research grouping, which collaborates with colleagues from the Faculty of Medicine and Health Sciences and local NHS trusts, is currently developing interventions to improve medicines used within care homes, to help patients with swallowing difficulties to take their medicines and to help patients who are unable to take their medicines due to either intentional or unintentional reasons.

Pharmaceutical Cell Biology
Members of this research grouping are internationally-recognised for their work on cell signalling mechanisms. This is underpinned by particular expertise in the molecular mechanisms of carcinogenesis, chemotaxis, inflammation processes (such as in septic shock and retinitis) and intercellular communication. Many of these research programmes encompass stimulating and interactive collaboration with other research groups from the Schools of Biological Sciences, Chemistry and the Norwich Medical School.

For more information on our research visit: www.uea.ac.uk/pha/research
MSc / Postgraduate Diploma Pharmacy Practice

For further information T +44 (0) 1603 591515
E admissions@uea.ac.uk
www.uea.ac.uk/pha

Length of Course:
2 years part time (PGDip) with a further year part time to achieve MSc

Entry Requirements
You should have a degree in pharmacy and must be working at least 0.4 FTE in a patient-facing role as a GPhC-registered pharmacist within the East of England region and maintain employment for the duration of your registration on the course. You must have the support of a tutor either based in or able to visit the workplace to assess practice regularly. You must also have the support of your employer to attend study days.

Fees and Funding
For information regarding tuition fees please contact the course director.

How to Apply
See page 38.

Programmes of study are regularly reviewed and updated – for the most up-to-date course information, please see: www.uea.ac.uk/pha/pgt

In selecting the University of East Anglia for your postgraduate studies, you will be joining a dynamic programme that is novel and aspirational, driving our pharmacists towards being the most highly effective practitioners produced thus far from a programme of this kind.

Who is the Course for?
This course is open to all pharmacists in all patient-facing sectors. It enables pharmacists from community, primary care and hospital roles to deliver patient-focused services utilising good clinical and consultation skills that complement their evolving role in the workplace.

Course Content and Structure
The diploma course is delivered alongside employment over two years. Successful students may apply to extend their studies to MSc level. Course topics include basic clinical skills and drug knowledge in a wide range of therapeutic areas together with general practice knowledge of how to maximise patient safety, introduce change within the workplace, conduct simple research, teach peers and engage with the national agenda for pharmacy and the wider NHS.

Common skills such as consultation are taught to mixed community and NHS pharmacist learning sets. However we recognise that sector-specific skills are important and provide specialist experiences tailored to each sector. This approach facilitates the sharing of best practice both within and across pharmacy sectors. Students attend nine study days per year that cover a range of clinical and operational topics, listed in the table below.

Course Assessment
Development in the workplace is charted using a professional capability framework guiding the trainee towards improvement in the following areas:
– Delivery of patient care
– Building working relationships
– Management
– Leadership
– Education, training and development
– Research and evaluation.

This will be supported by a practice portfolio, coursework (such as clinical audit, critical appraisal of literature, service development and research), a range of presentations (oral and poster), a clinical simulation and multiple choice examination.

Professional Prospects
Undertaken to diploma level the course will enable hospital and primary care pharmacists to apply for band 7 posts and community pharmacists to provide a range of enhanced services, and demonstrate the clinical and organisational skills required to participate fully and competitively in the changing NHS.

NHS pharmacists undertaking the course to MSc level will be looking towards band 8 roles or are established senior pharmacists introducing research expertise into their professional portfolio. Community pharmacists attaining the MSc will be looking towards leadership roles in service design and delivery.

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<table>
<thead>
<tr>
<th>Year 1: Foundation in Pharmacy Practice</th>
<th>All Students</th>
<th>NHS Only</th>
<th>Community Only</th>
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</thead>
<tbody>
<tr>
<td>Patient Assessment</td>
<td></td>
<td>Medicines in Renal / Hepatic Impairment</td>
<td>Pharmacy Management Enhanced Services: Cardiovascular Risk Enhanced Services: Sexual Health Enhanced Services: Smoking Cessation Enhanced Services: Substance Misuse</td>
</tr>
<tr>
<td>Working in the NHS</td>
<td></td>
<td>Fluids and Clinical Nutrition</td>
<td></td>
</tr>
<tr>
<td>Audit / Service Evaluation</td>
<td></td>
<td>Enteral and Parenteral Drug Therapy</td>
<td></td>
</tr>
<tr>
<td>Risk Management</td>
<td></td>
<td>Therapeutic Drug Monitoring</td>
<td></td>
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<tr>
<td>Adverse Drug Reactions and Interactions</td>
<td></td>
<td>Antimicrobials.</td>
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<tr>
<td>Patient Consultation</td>
<td></td>
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<tr>
<td>Healthcare at the Interface.</td>
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<tr>
<td>Change Management</td>
<td></td>
<td>Gastrointestinal and Liver Disease</td>
<td>Staff Management/ Medication Review</td>
</tr>
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<td>Respiratory Disease</td>
<td></td>
<td>Cardiobvascular and Renal Disease</td>
<td>Dermatology</td>
</tr>
<tr>
<td>Mental Health</td>
<td></td>
<td>Care of the Perioperative Patient.</td>
<td>Pain Management</td>
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<td>Endocrinology</td>
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<td>Cardiovascular Disease</td>
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<td>Critical Appraisal</td>
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<tr>
<td>The Pharmacist Teacher</td>
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<tr>
<td>Research Proposal.</td>
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</tbody>
</table>

Year 3: MSc: 60 Credit Research Project

Year 2: Applied Therapeutics

| Enhanced Services:                      | |
| Staff Management/ Medication Review    | |
| Dermatology                            | |
| Pain Management.                       | |

In selecting the University of East Anglia for your postgraduate studies, you will be joining a dynamic programme that is novel and aspirational, driving our pharmacists towards being the most highly effective practitioners produced thus far from a programme of this kind.
Life at UEA

The University of East Anglia is an internationally renowned university based on a spacious campus that provides top quality academic, social and cultural facilities to more than 15,000 students. The latest National Student Survey showed once again that our students are among the most satisfied in the country. The University has been in the top 10 English mainstream universities for student satisfaction ever since the survey began and we came first in the Times Higher Education Student Experience Survey 2013.

“UEA has been one of the big winners in the National Student Survey.”

The Times Good University Guide 2014

An Ideal Location
Built on 200 hectares of beautiful parkland on the outskirts of the historic city of Norwich, our campus is one of the most distinctive in the country, combining natural beauty with architectural flair. The campus has won more than 20 architectural awards and on-going multi-million pound investment continues to enhance teaching and research facilities. Virtually no part of our campus is more than a few minutes’ walk from anywhere else, and almost every student need is catered for on site – there’s a large food shop, incorporating a newsagent, post office and bakery, a bank, two launderettes, restaurants, bars and even a Waterstones bookshop. There are good public transport links into the city, which has a mainline railway station with regular services to London and other parts of the country. Norwich also has an international airport.

Accommodation
We have some of the best student accommodation in the country having twice been ranked first in the UK by the What Uni Student Choice Awards and achieving one of the top scores in the most recent Times Higher Education Student Experience Survey. Single international postgraduate students are normally guaranteed accommodation in their first year, provided that they have been offered and accepted a place at the University by the published deadline.

Learning Resources
Our library is an impressive 24 hours, seven days a week facility housing more than 800,000 books and journals, as well as extensive collections of specialist materials. We provide a wide range of IT services including campus internet access via a wireless network and in student residences. Specialist equipment such as scanners, colour printers and work stations especially equipped to meet the needs of users with mobility problems or visual impairment are also offered.

Language Learning for All
Whichever programme you choose, you also have the opportunity to improve or learn another language, although there may be an additional charge for this. We currently offer classes in Arabic, British Sign Language, Higher Advanced English, Mandarin Chinese, French, German, Greek (Modern), Italian, Japanese, Korean, Russian and Spanish.

www.uea.ac.uk/accom

www.uea.ac.uk/is

www.uea.ac.uk/lcs/learning-a-new-language
Careers Service
CareerCentral works in partnership with academic Schools to plan and deliver a comprehensive programme covering career management, employer and industry focused events and one-to-one guidance. Building links with employers, industry and start-up enterprises is central to our work, enabling us to provide students with a wealth of vacancy, internship, voluntary, mentoring and graduate opportunities. We encourage enterprise, innovation and aspiration throughout your time at UEA.

We recognise the importance of graduate employment and actively strive to equip our postgraduate students with the attributes necessary to succeed in whichever field they enter. There are careers advisers affiliated with each School supporting Master’s level postgraduates and three advisors specifically for research postgraduates across all Schools, who provide impartial information, advice and guidance, helping students develop suitable career-related skills and knowledge. Additional careers support for PhD students is provided through the Faculty Researcher Development Programmes.

Students can access comprehensive resources with information on occupations, employers and further study opportunities and there are numerous occasions throughout the academic year to meet employers at presentations and many other events, fairs and workshops. These include a range of networking opportunities with experienced professionals, many of whom are themselves University of East Anglia alumni. We maintain a targeted database of quality graduate vacancies and run a vacancy service for those seeking part-time or casual work locally or on campus during their study. Our nationally award-winning volunteering service offers opportunities for those looking to enhance their student experience as well as their CV.

Even after graduation, we continue to offer postgraduates professional careers support for up to three years including an internship programme, which helps recent graduates increase their employability through undertaking a strategic level project.

www.uea.ac.uk/careers
www.uea.ac.uk/internships

Student Support
We offer a wide range of advice and guidance to any student who wishes to make the most of the opportunities available to them whilst at UEA or who is experiencing difficulties. From counselling to childcare, money matters to our multi-faith centre, it’s good to know there’s help available whenever you might need it. We have financial advisers, an international student advisory team, learning enhancement tutors, an excellent nursery and a disability team. We also have a purpose built campus medical centre, a Boots pharmacy and a dental service offering NHS treatment to students and their families.

www.uea.ac.uk/services/students

Sporting Facilities
The University’s £30 million Sportspark is one of the finest sports complexes in Britain, boasting a state-of-the-art Olympic-sized swimming pool, athletics track, climbing wall, superbly equipped gym, two indoor arenas and all weather pitches hosting an extensive range of sports and leisure activities, from gymnastics and trampolining to aerobics and dance.

Our sports facilities were ranked joint second in the Times Higher Education Student Experience Survey 2013.

www.sportspark.co.uk

Arts and Culture
We are home to the Sainsbury Centre for Visual Arts, which provides access to permanent exhibitions of world art and a diverse range of touring exhibitions unrivalled by other universities. UEA also hosts an International Literary Festival which has included famous names such as Ian McEwan and Kazuo Ishiguro – both alumni of UEA’s Creative Writing course. Norwich is England’s first UNESCO City of Literature.

www.scva.ac.uk
www.uea.ac.uk/lifefest

Gigs and Events
The Independent says our Student Union gig roster is: “like pop music’s roll of honour, with the biggest names performing each year and other students’ unions wondering how on earth we manage it”. The LCR plays host to a wide range of popular bands, with around 60 gigs on campus each year. Regular club nights cover a wide spectrum of tastes and ensure there is something for every music fan. Recent high profile performers include Tom Odell, Bastille, Sub Focus, Haim, Ed Sheeran, Professor Green and Coldplay.

www.ueastudent.com

Financing Your Studies
We are committed to ensuring that tuition fees do not act as a barrier to those aspiring to come to a world-leading university and have developed a funding package to reward those with excellent qualifications and assist those from lower income backgrounds. For up-to-date information on financial matters including our tuition fees, maintenance grants, student loans, scholarships and bursaries please see our website.

www.uea.ac.uk/finance
Norwich and the Region

There is a lot going on in Norwich. A busy city with a real character all of its own, Norwich is friendly and lively. Just by walking around the centre you can see the historic reminders of its past, the two cathedrals, Norman castle and city walls, as well as its present with the stunning Forum library overlooking busy cobbled shopping streets and bustling cafes and restaurants. In short, Norwich is a charming mix of the historical and the new. There are plenty of opportunities to catch live music or theatre and the city is teeming with modern and traditional pubs. The local football team Norwich City, are a top-flight club and suitably befitting such a wonderful city and county, which was recently ranked as the safest place to live in the UK. Our students love Norwich so much many stay long after their studies. Welcome to Norwich: A Fine City.

“Norwich is a fine city. None finer. If there is another city in the United Kingdom with a matchless modern art gallery, a university with a reputation for literary excellence which can boast Booker Prize-winning alumni, and an extraordinary new state-of-the-art public library then I have yet to hear of it.”
Stephen Fry, actor, writer and UEA Honorary Graduate

Shopping
Norwich was voted one of the top 10 shopping destinations in the UK and it’s no wonder. With modern shopping malls, chain stores and half-timbered independent outlets sitting alongside stunning arcades and the UK’s largest open-air market, Norwich is a joy to walk around. As well as the big names – Norwich has four department stores, plus plenty of small, local outlets, vintage second-hand shops and exciting new ‘pop-ups’.

Art and Culture
Norwich was nominated as the UK’s City of Culture 2013, and it’s easy to see why. The city has six theatres with the Theatre Royal regularly staging West End productions, four cinemas, including the art house Cinema City, a number of established museums and a host of art galleries, from the renowned Norwich Gallery to artist-led galleries Outpost and Stew.
The Norfolk and Norwich Festival, held each May, is internationally acclaimed, attracting performers and visitors of all ages; its programme covering everything from classical ensembles to French-Canadian acrobats and the Open Studios scheme. The Festival also sees local artists opening up their studios for an exclusive peek inside.
The carnival and firework display for the Lord Mayor’s celebration every July is not to be missed while the Royal Norfolk Show, at the end of June every year, is the country’s largest two-day county show, which celebrates all that is great about this diverse county from its agricultural heritage to its gourmet food producers.

“The cathedral, castle and Elm Hill are the old and beautiful places to visit, where there are lovely cafes and incredible architecture, whilst you can go to Chapelfield, Gentleman’s Walk and the market for a massive selection of shops, restaurants and cafe chains. The variety in Norwich is amazing.” Naomi Newell, BSc Law Graduate (pictured left).

The magnificent Norwich Castle dominates the city’s skyline.
Food and Drink
Norwich has plenty of choice when it comes to eating out. Japanese, Thai, Italian all sit alongside traditional English restaurants and pub grub. Celebrity chefs Delia Smith, Jamie Oliver and Antonio Carluccio all have restaurants in the city. Delia’s is an established restaurant situated alongside Norwich City’s football ground, whilst Jamie’s Italian has recently opened for business in the stunning Royal Arcade. You’ll be pleased to know that many Norwich eateries also offer student discounts.

Look out for all the great delis and farm shops for fresh, seasonal produce (Norfolk produces everything from juicy mussels to organic chocolate). The local microbreweries are worth a visit too, with some gorgeous local beers and real ales.

Nightlife
Norwich has a thriving club and bar scene with new establishments opening all the time. There are also a number of live music venues such as the Norwich Arts Centre and UEA’s very own LCR and the Waterfront.

There are hundreds of pubs dotted around Norwich, which at one time was said to have had a tavern for every day of the year. Many pubs host comedy and quiz nights whilst real ale fans will not want to miss October’s famous Norwich Beer Festival.

Perfect Location
The University of East Anglia has a unique location. Situated on the edge of both the city and countryside, you are perfectly placed to explore both. The Norfolk coastline is home to world famous bird reserves and beautiful beaches, as well as ever-changing countryside interlaced with sleepy medieval villages, bustling market towns and stately homes. One of England’s most beautiful national parks, The Broads, is also right on our doorstep for sailing, walking and cycling while paintballing, amusement parks, a trip to the zoo or a day at the races are all within easy striking distance of the University.

Travel
Norwich has excellent public transport with trains every 30 minutes to London. Norwich International Airport is only 15 minutes from the city centre and has links worldwide via four daily flights to Amsterdam. National Express and Megabus also operate services directly from the University.
Applying to UEA

International Applicants
We welcome applications from students outside the UK. UEA offers a high-quality educational experience for international postgraduates, visiting students, exchange students and undergraduates. There are over 2,500 non-UK students studying at the University of East Anglia from more than 100 countries worldwide. For further information about all aspects of life as an international student at UEA including English language requirements and help improving your English, please see:

www.uea.ac.uk/international
www.intohigher.com/uea

Students with Disabilities
We welcome applications from students with disabilities. The Disability Team aims to offer information, advice and the co-ordination of support required by students both before and during their studies. The more information we have in advance of your arrival, the easier it is for us to make any necessary preparations. This can include any reasonable adjustments which are required for your studies or accommodation. For more information see:

www.uea.ac.uk/services/students/disability

Entry Qualifications
Applicants should normally have a good first degree (minimum 2:1 or equivalent) from a recognised higher education institution in a relevant discipline. More precise requirements – and any particular conditions for entry – may be specified for certain courses. We will also take into account your educational and work experience.

English Language Requirements
We welcome applications from those whose first language is not English or those whose degree was not taught in English. To ensure such students benefit fully from postgraduate study, we require evidence of proficiency in English. The University’s usual entry requirements are:

IELTS (or an equivalent qualification):
Taught: 6.5 (minimum 6.0 in all components)
Research: 7.0 (minimum 6.5 in all components).

In order to meet the English language proficiency requirements, you may wish to complete a Pre-Sessional English for Academic Purposes course prior to beginning your programme. This course may be taken at the University’s INTO Language Learning Centre, see our website for further details.

www.intohigher.com/uea

“...The University’s job shop also gives students access to part-time work, work experience and volunteering opportunities. In addition, UEA’s graduate intern programme enables recent graduates to work full or part-time for between four and 12 weeks at a business in the eastern region.”

The Sunday Times University Guide 2013
How to Apply

Applications for postgraduate taught or postgraduate research programmes should be made directly to the University and can be completed online:
www.uea.ac.uk/study/postgraduate/apply

Please read the accompanying guidance notes, as incomplete forms or missing references may delay decisions. If you have any questions about your application please email: admissions@uea.ac.uk or telephone: +44 (0) 1603 591515.

All applications need to be accompanied by certified transcripts and the final graduation certificate (if available) from the candidate’s earlier university, setting out examination results to date and the official results of IELTS (or equivalent) English tests where applicable. Applications should also include one formal academic reference.

Research degree applicants should also include their full curriculum vitae and a comprehensive statement of their proposed area of research unless applying for a specified studentship.

If you are interested in one of our research degrees you can refer to the research interests of members of academic staff on each School of Study’s web page. For further information email: pgr.enquiries.admiss@uea.ac.uk or telephone: +44 (0) 1603 591709.

Visiting Us

We are always delighted to meet prospective students, either before or after their applications. The best way to assess a university is to visit and experience what it has to offer. We warmly invite you to come and meet us.

Open Days

Our Open Days give you the chance to find out about student life, financing your degree and the courses we offer. You will be able to talk to lecturers and current postgraduate students as well as taking a tour around campus. For more information and upcoming dates see: www.uea.ac.uk/opendayinfo

Individual Visits

You are of course very welcome to visit the School at other times – just call us to make arrangements.
Disclaimer
We have taken great care in compiling the information contained in this prospectus, which we believe to be accurate at the time of going to press. However, the provision of courses, facilities and other arrangements described in the prospectus are regularly reviewed and may, with good reason, be subject to change without notice. Applicants for postgraduate programmes will be notified immediately of any material changes likely to have a bearing on their application, such as cancellation of, or major modification to, degree programmes or modules offered; changes to the delivery or location of courses, changes to accommodation provision, changes to entry requirements; or changes to fees and charges to be levied by the University.

Should industrial action or other circumstances beyond the control of the University occur, and this interferes with the University’s ability to deliver programmes or other services in accordance with the descriptions provided, the University will use all reasonable endeavours to minimise disruption as far as it is practicable to do so. Provided the University complies with its obligations set out above, it shall not be liable to students or applicants, for any loss, costs, charges or expenses arising out of the information set out in this prospectus, changes to that information or any disruption or interference of the type described above.

Equal Opportunities
The University of East Anglia operates an equal opportunities admissions policy. It aims to ensure that no applicant will receive less favourable treatment on the grounds of sex, age, marital status, race, colour, nationality, ethnic origin, sexual orientation, or political or religious belief. The University welcomes applications from candidates with disabilities. Information contained in this brochure may also be made available in other formats, to ensure access for everyone. Please call (+44) (0)1603 593753 to discuss.

Ethical Investment Policy
The University of East Anglia operates an Ethical Investment Policy.

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UEA Achievements

“UEA consistently ranks among the best universities in the country for student satisfaction. Its well taught degree courses and excellent facilities combined with a great social life and a nice place to live all on one stunning campus gives students the best of all worlds.”
The Sunday Times University Guide 2013

“The University of East Anglia is an increasingly popular campus-based university, just a couple of miles from the centre of Norwich. The university consistently makes the top 10 in the National Student Satisfaction Survey and was voted top English university in the latest What Uni Student Choice Awards.”
The Guardian Good University Guide 2014

“A top 15 university.”
The Guardian University Guide 2015
The Complete University Guide 2015
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University of East Anglia
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Norwich NR4 7TJ

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