



WARWICK
THE UNIVERSITY OF WARWICK

Full-time Taught Masters Programmes 2017-18

Department of Chemistry

Foreword

Director of Studies, Department of Chemistry

We have developed a range of exciting and dynamic taught masters courses that are focused on enabling you to further your education and make an impact on your future career. Whether this lies in academic or industrial research, teaching, scientific communication or elsewhere, we have a range of courses to suit your needs and interests.

We have developed focused MSc programmes with input from collaborating industries that will enable you to succeed in a constantly changing global environment. We are focused on educating students from a diverse range of backgrounds and we have a truly international student population which provides an enriched student experience. By studying with us, you are taking the first step to investing in your future. In return we will enable you to gain the necessary skills to compete effectively in the global market.

All of our taught MSc degrees contain a significant portion of research. As part of your degree, you will join one of our world renowned research groups and work alongside leading edge researchers on state-of-the-art research and development.

Your Master's degree will be awarded from the University of Warwick, giving you an internationally recognised qualification from the UK's most innovative and highly ranked university.

Your journey to success starts here!



Prof. Andrew Dove
Director of Postgraduate Taught Studies

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The University of Warwick

The success and reputation of the University of Warwick lies in a unique blend of entrepreneurial spirit and commitment to absolute academic excellence.

Warwick's International Community contributes greatly to the vibrant, cosmopolitan atmosphere on campus. With over 100 different nationalities represented you will be working and living with people from all over the world.

Accommodation consists of modern, comfortable rooms on campus, mostly en-suite and with high-speed internet and network access. Residences are set in pleasant parklands close to all the campus facilities.

Warwick's Students' Union is one of the largest in the country with over 250 societies to choose from. Student events such as 'one world week' are internationally recognised and mirror the University's reputation for innovation and dynamism.

Warwick Sport provides every opportunity for you to try something new or compete in your sport. It offers over 70 different sports clubs, a swimming pool, gym, indoor climbing wall,

all-weather tennis courts, 60 acres of outdoor playing fields and much more.

Warwick Arts Centre houses two theatres, a cinema, a 1,400 seat concert hall, the Mead Art Gallery, and a specialised music centre. It is nationally recognised as an outstanding venue for both famous and new artists.

The International Office provides a wide range of services for both prospective and current students, including immigration advice, welfare support and an orientation programme for those new to the UK.

Warwick University's Campus is an award-winning 700 acre, self-contained campus in the heart of England yet just one hour from London. With fantastic facilities and excellent access to local towns, cities and countryside, it provides an attractive, safe and supportive environment in which to live and study.

The Library holds over 1 million printed titles and 16,000 electronic journals and offers outstanding resources. The University's acclaimed 'Learning Grid' provides a 24/7 relaxed learning environment with an impressive range of multimedia equipment.

Warwick Careers Service gives students a real head-start in their job searches. Voted by students as the best in the country, the careers service provides outstanding guidance and support. Warwick University is widely recognised by employers as an ideal recruiting ground.

Language Support is offered by The Centre for Applied Linguistics. The Programme in English for Postgraduate Studies (PEPs) prepares students in academic English over 1, 2 or 3 terms. Six or ten week pre-sessional English courses may also be offered if you narrowly miss the English language criteria for Master's study.

Worship is encouraged by the multi-faith Chaplaincy which welcomes all members of the University community. It is home to Christian, Jewish and Muslim chaplains who, as a valued part of the University's welfare network, offer spiritual and emotional support.



A member of the Russell Group, Warwick has consistently been ranked within the UK 'top ten' and is positioned within the top 50 universities in the world.



About the Department of Chemistry

Warwick Chemistry is one of the premier Chemistry departments in the UK, having recently ranked 6th in the UK in the recent research excellence framework (REF) exercise.

The Department of Chemistry

Is a thriving community of academics, researchers, support staff and students. By joining our department, you too will quickly share in our enthusiasm for chemistry and its applications, from medicine to renewable energy.

You will be inspired by our dedicated team of academics who, as world-leading researchers, use their expertise and enthusiasm for innovation and discovery. Expect teaching that takes the best from both modern and traditional methods. What is unquestionably modern is our high-specification, industry standard laboratories and state-of-the-art equipment.

Research

Into new graphene based materials, synthetic cells for gene regulations, organic solar cells for portable electronics, and trailblazing developments in the fight against Cancer are just a handful of the breakthroughs made by our academics. By choosing Warwick, you'll be joining a research driven community with an enviable reputation for creating new knowledge. You play a part in that process.

A significant part of all of our taught masters courses involves a research project (40%). In these projects, you will have the opportunity to contribute to cutting-edge research projects and work with world-leading research groups to tackle important research problems. Your work will be carried out in our state-of-the-art laboratory space and you will also use the latest spectroscopic and analytical instrumentation, and powerful facilities for computational chemistry where necessary for your project work. Your work could very likely be selected for publication in a prestigious journal.

Cutting-edge facilities include:

- Eight high-field NMR spectrometers
- X-Ray diffraction equipment
- Chromatographic equipment
- Lasers
- High performance computers

Our research spans activity in:

- Analytical science and instrumentation
- Polymer chemistry and science
- Chemical biology
- Interfaces and materials
- Synthesis and catalysis
- Theory and simulation



"The masters course allowed me to be well-prepared for working in an industrial field, as well as providing an opportunity to explore the high quality research at the University of Warwick."

Yuko Lam
2015 Graduate

About our Masters Programmes

The success and reputation of Masters study at Warwick is measured through track record; attracting the very best students for over ten years and having world leading academics in their fields.

Our Taught Masters Courses

Masters study in Chemistry at Warwick is designed with you in mind. We have a range of modules that are tailored to your needs so that you can achieve your future career goals.

We recognise the importance of multidisciplinary research and as such all of our programmes involve modules that are co-taught with other departments from across campus. Your interactions with the wide range of approaches will benefit your future interactions as your career moves forward.

Students gain practical experiences with a range of equipment relevant to each discipline, enabling our graduates to work in any modern laboratory.

We have a range of exciting courses to choose from to suit your interests:

- Analytical Sciences and Instrumentation
- Polymer Chemistry
- Polymer Science
- Analytical and Polymer Science
- Molecular Analytical Science
- Diamond Science and Technology
- Chemistry with Scientific Writing
- Scientific Research and Communication

Learning Style

The taught component of the programme is a blend of formal lectures, seminars, syndicate work and practical exercises, which encourages teamwork and practical grounding of the material. E-learning and forum activities are widely used to complement these.

Modules are usually taught in an intensive block, allowing you to be fully immersed in each subject area. Tutors are highly qualified and work at the forefront of their specialisation.

An extended (typically 20 weeks) research project enables you to immerse yourself in a real research project, once again supervised by renowned academics in their field.

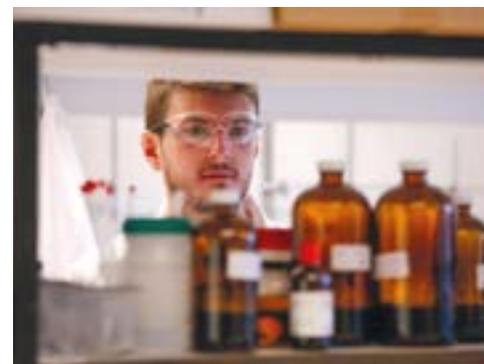
Industrial Interactions

We have modules that are set up with industrial interaction in mind. Throughout your MSc you will have the opportunity to see industrial researchers, publishers and experts in intellectual property law speak about their work with time to meet and have discussion with them afterwards.

Our academic staff have excellent links across a wide range of industries relevant to your studies including: agrochemical, automotive, personal care, instrumentation and pharmaceutical companies who have been consulted on the content and suitability of our programmes.

Careers

A taught MSc in Chemistry from Warwick will prepare you a wide range of potential careers. Several of our former students are now undertaking research in either an academic, government or industrial environment. Our MSc courses prepare you for a range of roles in the chemical or pharmaceutical industries. Research, scientific journalism, consulting or intellectual property law are among the many career paths you could choose to follow. As an example, the MSc in Polymer Chemistry is designed to deliver a thorough knowledge and understanding into the fascinating world of polymer chemistry, tutored by our academics and industrial experts. You will be immersed in a research-lead environment where you can learn about the synthesis and characterisation of polymers and their physical properties. This MSc is ideal for those looking to undertake a PhD or follow a career in industrial polymer synthesis.



An important aspect of modern day science is its interdisciplinary nature. Our courses all involve teaching and interactions with a number of other departments including physics, WMG, engineering and life sciences.

About our Masters Programmes

Our taught Masters courses are based around a flexible portfolio of modules that are designed to develop both technical and transferable skills to better prepare you for your chosen career path.

The academic programme on our MSc courses is both highly challenging and rewarding. Innovative teaching methods are used to ensure our students engage practically with their studies and are well equipped on graduation to apply this to real world scenarios.

Each MSc course is structured so that each student takes a combination of ten (typically) taught modules and completes a major 20 week research project

Help at hand

A personal tutor is assigned to you from the outset of your MSc, whose role is to provide general academic advice on: (i) progress development; (ii) pastoral/non-academic matters; (iii) assist you with induction and orientation into university life at Warwick; and (iv) a range of other advice from course changes to financial and accommodation issues.

Modules

Modules consist of nominally 50 hours of directed tuition usually delivered in an intensive, fully immersive block. A variety of innovative teaching methods are used to maximise learning and ensure that you are well equipped to apply their knowledge in the work place on completion of the course.

Core modules are compulsory and relate specifically to the chosen course but you can choose at least one elective module to tailor your course to your own interests. There is also a transferable skills module that is common throughout our MSc programmes as we recognise the crucial importance that these skills play in the real world.

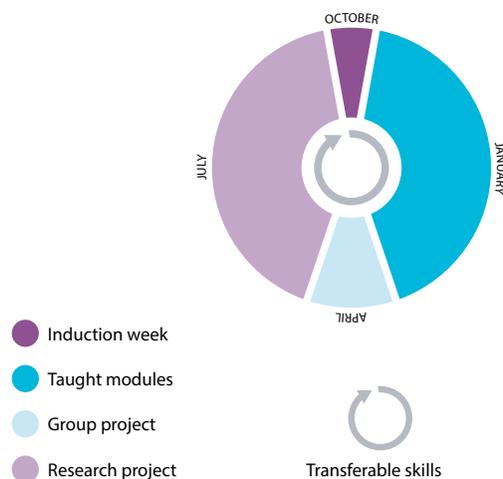
Assessment

Performance in modules is assessed by both module assignments and post module examinations. The research component is assessed through a 15,000 word thesis and a presentation of your work.

Research Project

Each student has to undertake a major individual research project. This accounts for 40% of the overall credit and is submitted in the form of a dissertation of approximately 15,000 words. A presentation is held upon completion.

Near the mid point of the course you will be provided with a list of research projects relevant to your degree course. However, we can also usually accommodate supervision of projects proposed by students specifically focused on their individual career paths or aspirations.



“The Warwick campus is self contained, with everything you could possibly need. Warwick also has some of the best analytical facilities in the UK meaning we can get stuff done!”

Zoe Ayres
2013 Graduate

Our Masters Courses

The MSc in Analytical Sciences & Instrumentation

Is delivered by internationally leading experts from the Departments of Chemistry, Physics, Statistics, Engineering and Life Sciences as well as guest lecturers from our industrial partners. Students gain hands-on practical experience with a range of equipment relevant to each discipline, enabling our graduates to work in any modern laboratory. This Royal Society of Chemistry MSc is ideal for those looking to undertake a PhD or follow a career in analytical science.

Modules include:

- Mass Spectrometry
- Chromatography and Separation Science
- Team Research Project: Real World Analysis
- Electrochemistry and Sensors
- Principles and Techniques in Quantitative and Qualitative Analysis
- Magnetic Resonance
- Techniques for the Characterisation of Biomolecules
- Microscopy and Imaging
- Statistics for Data Analysis
- Transferable Skills
- Advanced Electron Microscopy – Theory and Practice
- Advanced Statistics and Chemometrics
- Research Project

The MSc in Polymer Chemistry

Is designed to deliver a thorough knowledge and understanding into the fascinating world of polymer chemistry, tutored by our academics and industrial experts. You will be immersed in a research-lead environment where you can learn about the synthesis and characterisation of polymers and their physical properties. This Royal Society of Chemistry MSc is ideal for those looking to undertake a PhD or follow a career in industrial polymer synthesis. Modules include:

- Fundamentals of Polymerization
- Advanced Polymer Synthesis
- Physical Properties of Macromolecules
- Advanced Colloidal Materials
- Polymers in the Real World
- Magnetic Resonance
- Chromatography and Separation Science
- Transferable Skills
- Group Research Project
- Principles and Techniques in Quantitative and Qualitative Analysis
- Polymer Processing and Nanocomposites
- Mass Spectrometry
- Molecular Modelling
- Research project

The MSc in Polymer Science

Is designed to not only introduce you into polymer synthesis and characterization, but also demonstrate that macro-scale properties span into the nano and meso scale. You will interact with academics across several departments. There is also the option of taking a business module to prepare you for a career in industry. This MSc is ideal for those looking for a career in polymers and materials processing as well as a route to a PhD. Modules include:

- Fundamentals of Polymerization
- Physical Properties of Macromolecules
- Advanced Colloidal Materials
- Polymers in the Real World
- Polymer Processing and Nanocomposites
- Chromatography and Separation Science
- Transferable Skills
- Group Research Project
- Principles and Techniques in Quantitative and Qualitative Analysis
- Business Model Generation
- Innovation
- Business Strategy and Strategic Management
- Establishing a New Business
- Molecular Modelling
- Research Project

The MSc in Analytical and Polymer Science

Is a unique course combining Warwick's world leading expertise in these two complementary areas. The fundamentals of polymer synthesis and properties will be introduced, but then special focus is placed on modern instrumentation and analytical methods. This MSc is ideal for those looking to undertake a PhD or follow a career in pharmaceutical sciences, with the option to take additional modules from our portfolio of courses. Modules include:

- Frontier Instrumental Techniques for Molecular Analytical Science
- Chromatography and Separation Science
- Principles and Techniques in Quantitative and Qualitative Analysis
- Physical Properties of Macromolecules
- Polymer Processing and Nanocomposites
- Transferable Skills
- Fundamentals of Polymerization
- Group Research Project
- Team Research Project
- Molecular Modelling

- Mass Spectrometry
- Electrochemistry and Sensors
- Magnetic Resonance
- Advanced Colloidal Materials
- Polymers in the Real World
- Research Project

The MSc in Molecular Analytical Science

Will provide you with a unique combination of skills in exploiting synergies between different experimental methods and in harnessing the power of combining data collection with experimental design, statistical analysis and simulation. This multi-disciplinary degree will equip you with a combination of scientific and complementary skills for continuing a research career into addressing many key industrial and societal challenges faced by the UK. Modules include:

- Principles and Techniques in Quantitative and Qualitative Analysis
- Introduction to Chemistry and Biochemistry
- Frontier Instrumental Techniques for Molecular Analytical Sciences
- Microscopy and Imaging
- Statistics for Data Analysis
- Transferable Skills
- Computational Modelling
- Team Research Project: Real World Analysis
- Sensors
- Mass Spectrometry
- Chromatography and Separation Science
- Magnetic Resonance
- Molecular Modelling
- Research Project



“Our masters courses offer in-depth training in areas that are directly related to world-leading research, and are of critical importance to the world-wide chemical industry.”

Dr Nikola Chmel
Analytical Sciences & Instrumentation
Course Director

The MSc in Diamond Science and Technology

Offers you the opportunity to garner a detailed understanding of the fundamentals of materials science with an emphasis on diamond. This MSc will provide you with the theory, experience and problem solving skills needed to research, drive, manage and evaluate the advances in technology that underpin this field. This MSc is ideal for those looking to undertake further study or for a career in advanced materials. Modules include:

- Novel and Efficient Methods of Material Synthesis
- Properties and Characterisation of Materials
- Defects and Dopants
- Computational Theoretical Material Modelling
- Manufacturing for Future: Industrial Diamond
- Interfaces and Coatings
- Device Fabrication and Processing
- Applications of High Performance Materials
- Electrochemistry & Sensors
- Biomedical Optics and Applications
- Photonics and Quantum Technologies
- Research project

The MSc in Chemistry with Scientific Writing

Will teach you how to communicate science. For example, you may need to explain the structure of a leaf to a seven year old one day, and report the very latest research to the world via scientific journals the next. Both rely not only on subject knowledge but also the ability to effectively communicate often complex scientific concepts to others. This MSc aims to give you the English Language skills necessary to communicate science and to effectively apply these skills in a range of scenarios. Modules include:

- Writing Extended Scientific Articles
- Writing Focused Scientific Articles and Reports
- Communicating Science to Different Audiences
- Transferable Skills
- 5 elective modules from our masters portfolio
- Research Project

The MSc in Scientific Research and Communication

Combines top quality English Language teaching from the Centre for Applied Linguistics, with advanced scientific teaching and research from our highly rated Faculty of Science. This MSc will give you the necessary English Language Skills, expertise in cross-disciplinary research and opportunities to combine these to successfully communicate science to various audiences. This MSc is ideal for those looking for a career in research, scientific writing, education, media and more. Modules include:

- Writing Extended Scientific Articles
- Writing Focused Scientific Articles and Reports
- Communicating Science to Different Audiences
- Scientific Research Skills
- 5 optional modules offered (from >50) by the faculty of Science
- Research Project



After you graduate

The diverse skills-set that you acquire during your Masters Course will help shape your career. Former graduates have secured PhD studentships or positions within industry, the latter leveraged by our strong industrial links with some of the leading chemical companies.

Finding a job

Our greatest resource is the knowledge and network base of our world leading academics, which they have built over many years. They will provide you with guidance in making sure you utilise your skills-set to your fullest potential. The well established links with leading research groups, both in the UK and world wide, along with the strong links with chemical

and pharmaceutical industries will ensure that a career path in academia or industry is well within your grasp. Our academics will assist you in many aspects of career advice including preparing your CV to providing you with practice interviews. Our track record of success speaks for itself!



Entry Requirements and Application

Warwick is a world class university that will provide you with a qualification that is recognised internationally. While our standards are very high, we encourage you to contact us to discuss your potential study with us.

Entry Requirements

Admission onto one of our MSc programmes requires at least a British Second Class Honours Degree or Overseas equivalent. A range of backgrounds are typically suitable from the physical sciences but candidates from other disciplines may also be considered – please feel free to contact us at chem-pgt@warwick.ac.uk if you have any questions.

English Language Requirements

Non-native speakers of English must satisfy the English language requirements:

- IELTS 6.5*
- PTE (Pearson) 62*
- Three years of UG study in an English speaking country

*minimum element scores apply

All Courses Are

- 12 months duration
- Start date: 25 September 2017

How to Apply

Applications are made online at: www2.warwick.ac.uk/pgapply

The cost of a single application is £50.

The following supporting documents are required:

- Academic transcripts and certificates
- Two academic references
- English language qualifications

Tuition Fees (2017-18)

- UK and EU fee payers £8,170
- Overseas fee payers £23,460
- New PGT loans information at: www.warwick.ac.uk/chemistry/masters/fees

Scholarships

The Department of Chemistry will be awarding scholarships for the October 2017 intake. For more details: www.warwick.ac.uk/chemistry/masters/fees



Prof. Andrew Dove
Director of Postgraduate
Taught Studies



Christina Forbes
PGT Course
Coordinator



Dr Vasilios Stavros
Admissions Tutor

Contact us at:
chem-pgt@warwick.ac.uk



Getting to Warwick

Warwick is located in central England, making it easy to reach by road, rail or air. Public transport links are plentiful, with bus stops across campus, train stations a short distance away and a national coach service operating close to our campus.

- 1 hour to London by train
- Nearest airport: Birmingham International 20 minutes
- Nearest train: Coventry



The logo consists of a white downward-pointing chevron shape centered on a blue background.

WARWICK

Getting in touch

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