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The University of Manchester

Become a broad spectrum analytical chemist: MSc Analytical Chemistry and Measurement Science

Thank you for attending today's webinar

The session will begin shortly

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Become a broad spectrum analytical chemist: MSc Analytical Chemistry and Measurement Science

Professor Mathias Nilsson, Programme Director
Dr Drupad Trivedi, University of Manchester
Hazel Craven, Course Advisor

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Today's session

- Meet the panel
- Panel discussion: The role of the analytical chemist
- Course overview
- Q&A

Hazel Craven, Course Advisor

- Your dedicated Course Advisor for Analytical Chemistry and Measurement Science
- Here to **support and guide** you through the application and decision making process
- Available for Zoom and telephone consultations, providing **personalised advice and assistance** and answering your questions about the course
- Contact me through studyonline@manchester.ac.uk

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Prof Mathias Nilsson, Programme Director

- Professor in **Physical Chemistry**
- Research interests include the **development and application of novel methods in liquids NMR spectroscopy**
- PhD in Food Science (supervised by Per Åman) from the Swedish University of Agricultural Sciences (1999), Uppsala Sweden
- Member of The University of Manchester **NMR Methodology Group**
- **Research links worldwide** including Europe and South America

Dr Drupad Trivedi, Lecturer in Analytical Sciences

- Lecturer in Analytical Chemistry and Measurement Sciences
- Research interests include the **use of analytical chemistry methods to study different biomarkers and personalised medicine**
- **Honorary research fellow** for ELK-Foundation of Health and Biomedical Research
- **Led the metabolomics project for Parkinson's diseases diagnostics** funded by Michael J Fox Foundation and Parkinson's UK, and the **metabolome and volatilome exploration for understanding key differences in Parkinson's skin surfaces**.
- Winner of the **RSC Robert Boyle prize for Analytical Chemistry** for The Nose to Diagnose – detecting Parkinson's disease through changes in smell

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Panel discussion:
The role of the analytical chemist

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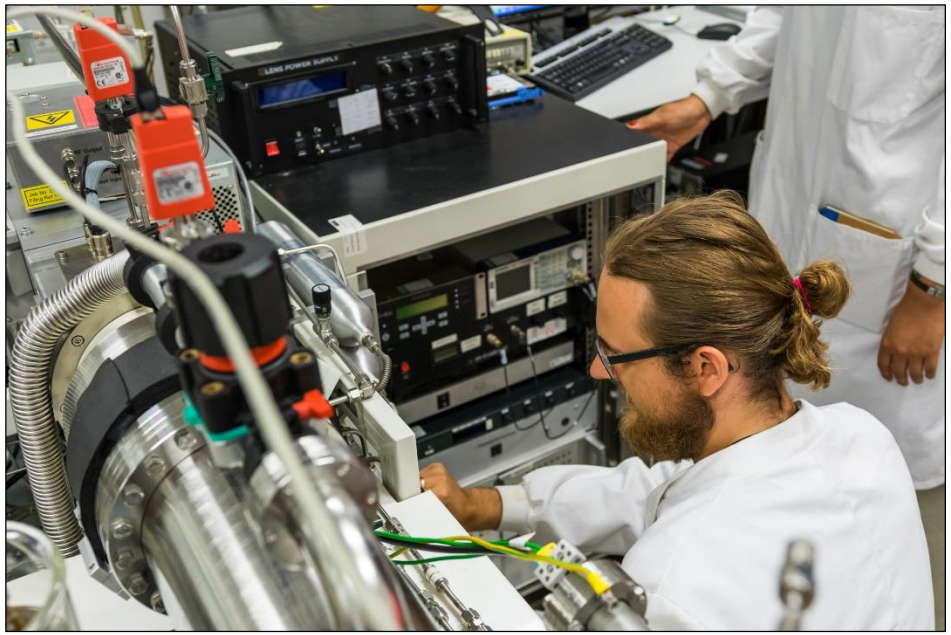
What is Analytical Chemistry and Measurement Science?



Analytical Chemistry is the science of **obtaining, processing and communicating information about the composition and structure of matter**. It is the **lynchpin of the chemical, pharmaceutical, food and processing industries**, where continual rigorous routine measurements are essential.

Analytical chemistry scientists **use their knowledge of chemistry, instrumentation, computers and statistics to solve problems** in almost all areas of chemistry and for all kinds of industries.

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Learning Objectives

- Provide **high-quality training and development of analytical skills**, particularly for those in industries such as environmental, clinical, pharmaceutical, chemical, food production, petrochemicals, materials.
- Create a **broad-spectrum and multifaceted analytical chemist**, who is capable of **using advanced analytical techniques across a wide range of industries**.
- You will study **classical and state-of-the-art, instrumentally based techniques** such as **atomic and molecular spectroscopy, chromatography and mass spectrometry.**
- We aim to ensure you are **capable of data processing**, a critical feature in obtaining reliable results.

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Analytical Chemistry and Measurement Science Overview

- Available as an MSc (180 credits), PGDip (120 credits), PG Cert (60 Credits) or CPD
- Study **100% online**
- **20 credit units**, taught in **10 week blocks**
- **Flexible learning** – study when it suits you and tailor your learning around your work and other commitments
- **MSc** - £12,000, **PGDip** - £8,000, **PGCert** - £4,000, **CPD** - £1,330

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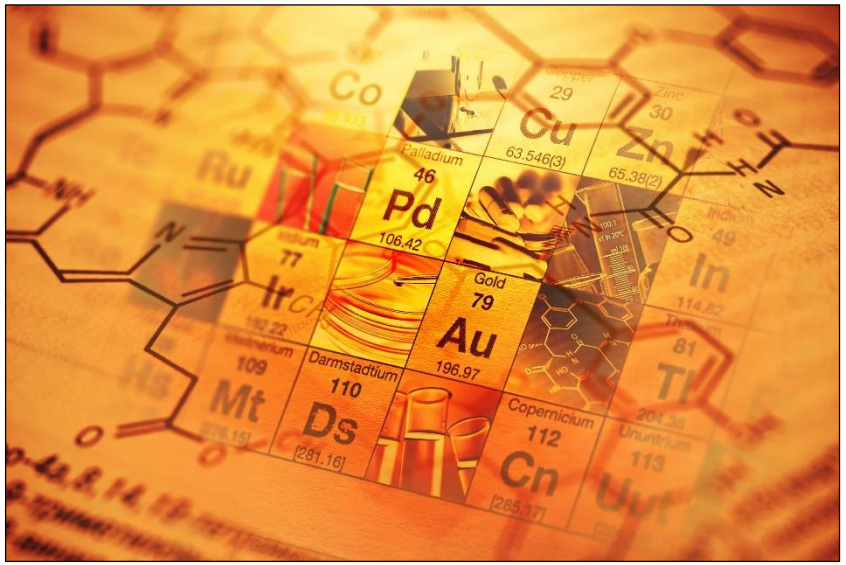
Course Units



- All taught units are worth 20 credits and taught over 10 weeks
- Study fully online around your work and other commitments
- Learn from a leading academic expert in each module
- Study mandatory modules to build core knowledge, and choose optional modules relevant to you
- Materials released weekly through our virtual learning environment

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Course Units

Unit name	Msc	PGDip	PGCert	CPD
Fundamentals of Analytical Science	Mandatory	Mandatory	Mandatory	Optional
Separation Science	Mandatory	Mandatory	Optional	Optional
Mass Spectrometry	Mandatory	Mandatory	Optional	Optional
Atomic and Molecular Spectroscopy	Mandatory	Mandatory	Optional	Optional
Magnetic Resonance	Optional	Optional	N/A	Optional
X-ray Techniques	Optional	Optional	N/A	Optional
Chemometrics	Optional	Optional	N/A	Optional

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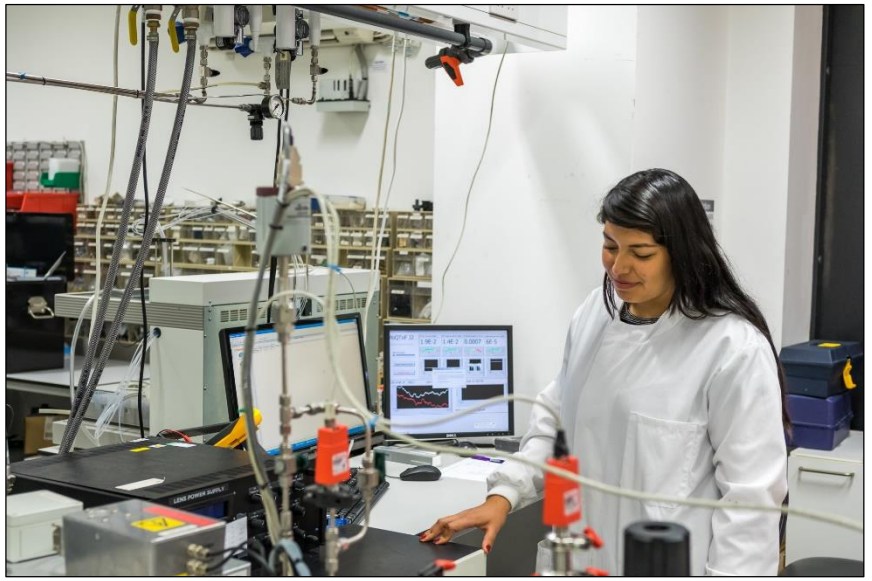
Research Project



- Available on the MSc
- 3 options available to you, choose the option that best suits your needs

- Option 1: Study a project with your current employer
  - Use your own industry, knowledge and skills to develop a research project from a wide range of areas
  - Tailor it to your current area of work and expertise
  - Gain support from an Academic Supervisor at The University of Manchester and an industrial supervisor

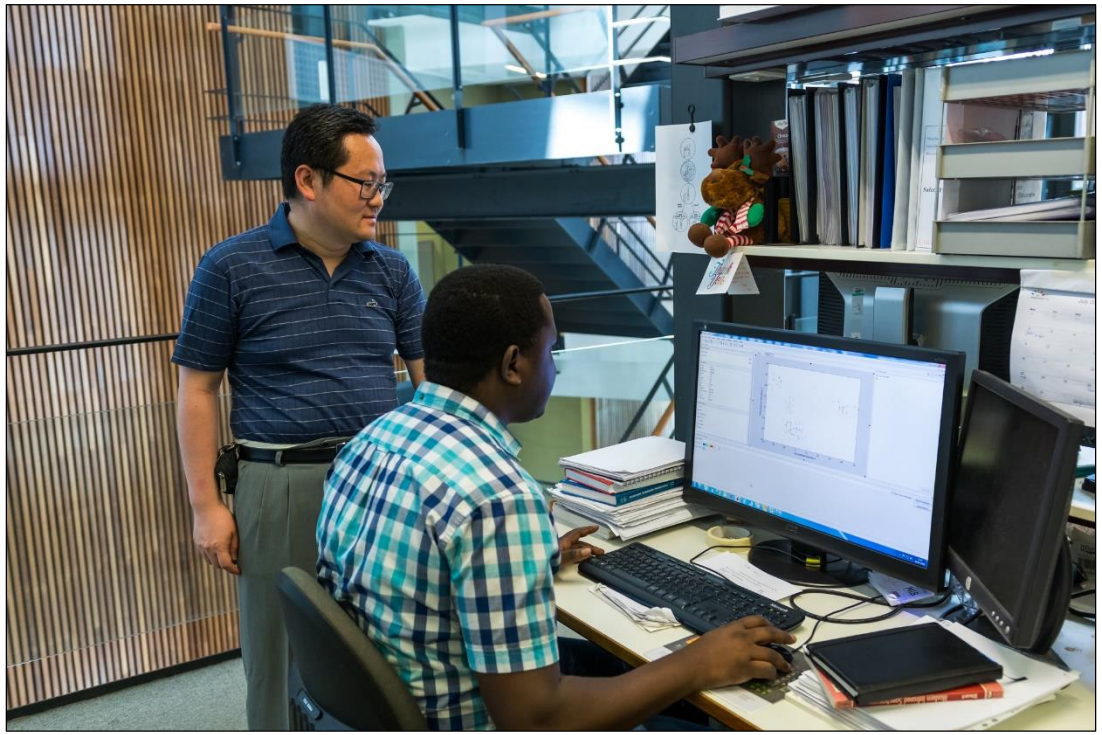
- Option 2: Chose a computational/theoretical project and study online
  - Suitable for those students unable to take a practical project due to work or other commitments
  - Additional fee of £1,000

- Option 3: Study a project utilising the state-of-the-art labs and equipment at The University of Manchester
  - Gain access to Manchester's labs and study under the supervision of an industry-leading analytical chemist
  - Work alongside PhD students in the labs and experience first-hand the ground-breaking research taking place in Manchester
  - Additional fee of £3,000 (plus expenses)

Research Project

- Typical areas may include:
  - Chromatography e.g. gas chromatograph (GC)
  - High-performance liquid chromatography (HPLC)
  - Mass spectrometry (MS)
  - Atomic spectroscopy (absorption (AAS)
  - Emission or mass spectrometry (ICP-OES, ICP-MS)
  - Molecular spectroscopy (visible/ultraviolet, Raman, infrared)
  - Magnetic resonance (NMR, EPR)
  - X-ray techniques

- Other research techniques are available at the discretion of the course director



Is this course for me?

This course is suitable for you whether you are:

- Looking to retrain as an analytical chemist from another industry
- Already working as an analytical chemist and want to consolidate your knowledge to advance your career
- A specialist in one discipline of analytical chemistry but want to broaden you knowledge of analytical chemistry techniques and methods

Entry requirements

We require a First or Second class honours degree, or the overseas equivalent in chemistry or course with a major analytical analysis/chemistry component.

Students with other relevant background, such as significant industrial and research experience, may be taken at the discretion of the Course Director.

If English is not your first language then you may need to demonstrate English Language proficiency equivalent to 6.5 overall (and a minimum of 6.5 for writing and 6 in all other subsections) in the IELTS Academic

When you submit your application you will need to provide:

- At least one professional or academic reference
- A CV detailing your professional experience
- A 500-word personal statement explaining why you want to study the course

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Any questions?

Contact Details

If you have any further questions, or would like to discuss this course in more detail then please contact Hazel Craven.

Email: studyonline@manchester.ac.uk
Telephone (phone or WhatsApp): + 44 (0)7867 200790