

Surface Analysis

XPS, AUGER AND SIMS



MONDAY 18 MARCH TO FRIDAY 22 MARCH 2019

WHO SHOULD ATTEND?

The course is for you if you need a thorough grounding in these surface analysis methods, both for “trouble-shooting” investigations and longer term research projects. As the field of surface analysis continues to develop very rapidly, the course provides an ideal opportunity to review the scope and applicability of such methods for specific applications. If the course would be useful for some of your colleagues, please pass the brochure on or contact us for additional copies. While the course is open to all, a scientific or engineering education to degree level, or a higher education qualification in physics or chemistry is desirable.

THE COURSE

This is a one week postgraduate level course. The aim is to provide an intensive introduction to the principles of the electron spectroscopic techniques of X-ray photoelectron spectroscopy (XPS or ESCA) and Auger electron spectroscopy (AES), together with scanning Auger microscopy (SAM) and secondary ion mass spectrometry (SIMS). The course will be staffed by lecturers with considerable experience in

applied surface analysis, drawn from both the University of Surrey and elsewhere. Each day will comprise lectures, laboratory demonstrations and classes with the course tutors. Attendees with specific problems concerning the applications of electron spectroscopy will have ample opportunity to consult the lecturers. The number of registrants will be limited to ensure maximum benefit from both the practical classes and tutorial sessions.

OUTLINE OF THE COURSE

- Introduction to Photoelectron and Auger Spectroscopy I: Basic Principles
- Introduction to Photoelectron and Auger Spectroscopy II: Chemical Information
- Introduction to Secondary Ion Mass Spectrometry
- Instrumentation for Surface Analysis
- SIMS Analysis of Inorganic Systems
- Quantitative Analysis of Surfaces by Electron Spectroscopy (QUASES)
- Auger and X-Ray Mapping
- Sputter Depth Profiling
- Non Destructive Depth Profiling
- XPS at High Spatial Resolution
- Surface Analysis of Polymers: SIMS

KEY POINTS

For course calendar and online registration:
surrey.ac.uk/departments/mechanical-engineering-sciences/short-courses

If you have a question please call:
+44 (0)1483 686122

Courses run for one week from Monday morning to Friday afternoon.

Delegates may request a list of local accommodation

- Surface Analysis of Polymers: XPS
- Applications I: Corrosion Phenomena; Spectra and Images
- Applications II: Analysis of Hard Coatings
- Applications III: Adhesion
- Recent Advances in Surface Analysis

MSC IN ADVANCED MATERIALS

This short course is offered as a module in our part-time or full-time Modular MSc Programme in Advanced Materials. Further details of our programme can be found on our web pages:

surrey.ac.uk/postgraduate/advanced-materials-msc-2018

COURSE DIRECTOR

The Course Director is Professor John F Watts.

surrey.ac.uk/people/john-f-watts

He will be joined by colleagues from across the University of Surrey's materials activity.

These short courses have been approved for “Professional Development” by IOM3

(Institute of Materials, Minerals and Mining).



CENTRE FOR ENGINEERING MATERIALS

The course is delivered from the Centre for Engineering Materials, home to the biggest concentration of materials researchers at Surrey with interests spanning all materials groups from the nanoscale through to macroscopic engineering structures. Across the University there are over 50 academics, residing in six engineering/ physical science departments, for whom materials is a primary research interest:

surrey.ac.uk/centre-engineering-materials

The research, which is recognised as being internationally excellent, spans topics as diverse as the production of graphene through to the mechanical testing of metre long sections of Victorian water mains. Much of the work is underpinned by the University's world-leading capability in characterisation, which comprises both facilities and expertise. Further, Surrey has a history of working in partnership with industry and a proven track record in delivering academically acclaimed and industrially relevant postgraduate courses.

The University is also home to the thriving, much-admired Engineering and Physical Sciences Research Council (EPSRC) Centre for Doctoral Training in Micro and NanoMaterials and Technologies which was established in 2009, and subsequently refunded in 2014, with awards amounting to over £9 million from the EPSRC and sponsorship of engineering doctorate students from over forty companies, to date:
surrey.ac.uk/minmat



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The Institute of Materials,
Minerals and Mining

ACCREDITED PROGRAMME

Surface Analysis: XPA, Auger and SIMS is also part of the
Advanced Materials MSc programme which is accredited by IOM3

We've made all reasonable efforts to ensure that the information in this publication was correct at the time of going to print in September 2018, but we can't accept any liability for any inaccuracies in the information published, and the information might change from time to time without notice. For the latest and most up-to-date information, please visit our website at surrey.ac.uk