Short course speakers

Pat McKeown, OBE, FREng
Professor Emeritus at Cranfield, previously the Director of CUPE and the Chairman of Cranfield Precision Engineering Group of companies. Presently he is a Director of euspen Ltd.

Dave Allen
Professor of Microengineering, he is the author of the book entitled “Principles and Practice of Photochemical Machining and Photoetching”.

Liam Blunt
Taylor Hobson Professor of Surface Metrology at the University of Huddersfield. He has been heavily involved in the development of 3D surface measurement and is the Director of the Centre for Precision Technology at Huddersfield.

Martin Culpepper
Rockwell International Associate Professor of Mechanical Engineering at Massachusetts Institute of Technology (MIT). He is also the Assistant Director of the MIT Laboratory for Manufacturing and Productivity.

Tan Jin
An experienced Research Fellow at Cranfield heavily engaged in developing research into high efficiency grinding of aerospace, automotive and optical materials.

Paul Morantz
Principal Research Fellow at Cranfield. He has considerable industrial experience in precision machine tool development.

Paul Shore
Professor of Ultra Precision Technologies at Cranfield and previously SKF Group Research and Development Manager of Precision Production Engineering.

David Walker
Director of the Optical Sciences Laboratory at University College London and the Technical Director of Zeeko Ltd.

Ian Walton
An experienced Research Officer at Cranfield, leading the development of high performance grinding processes for aerospace, automotive and optical components. He is also the Research Manager for the Cranfield Innovative Manufacturing Research Centre.

Contact

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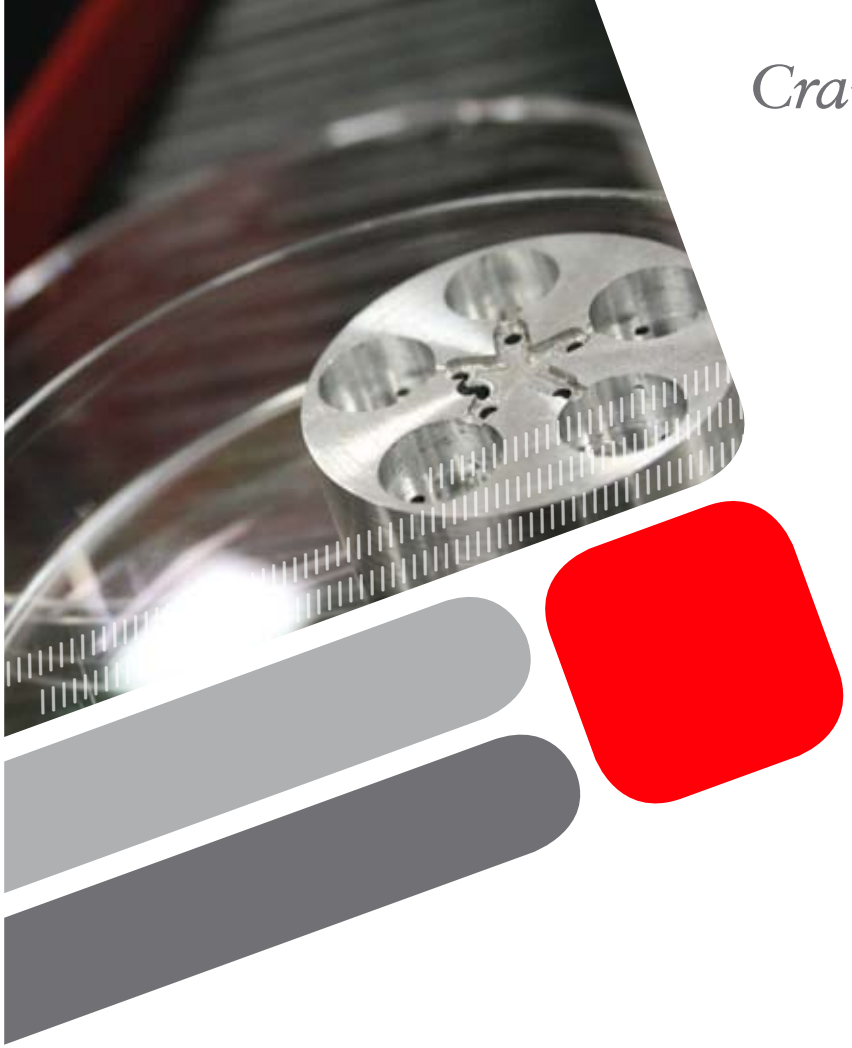
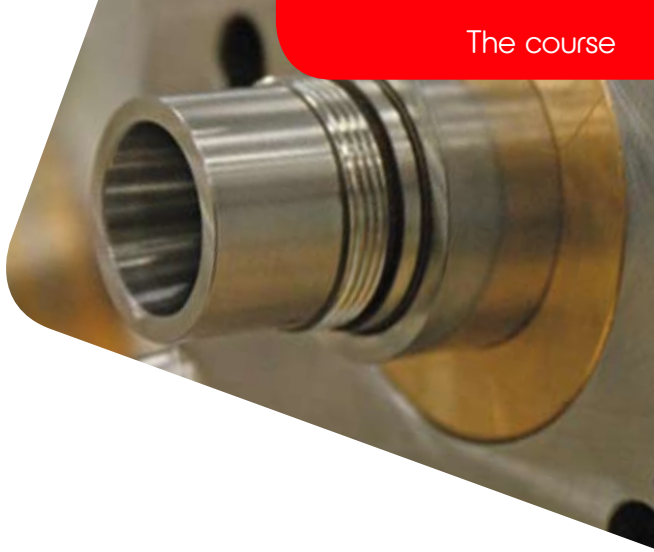


Cranfield UNIVERSITY

Precision Engineering

Online learning package

Organised by Cranfield University Precision Engineering Centre



Introduction

This results-orientated online e-learning programme covers the basic principles and state-of-the-art concepts to increase the precision, accuracy and reliability of machine tools and products.

The flexible online format enables you to study when and where you wish and at a pace that suits you.

Lecturers include world renowned experts in ultra precision from Cranfield University, in addition to subject specialists at the Opto-electronics Technology and Incubation Centre (OpTIC), the Optical Science Laboratory of University College London, the Institute of Manufacturing at the University of Cambridge, the University of Huddersfield and the Massachuchetts Institute of Technology (MIT).

Who is it for?

The programme is suitable for science and engineering professionals with an interest in the development of ultra precision and structured surfaces for high technology products. These online training options will allow practitioners to enhance their professional development within their current employment.

Benefits of study

- Gain knowledge to increase the precision, accuracy and reliability of your machines and products
- Gain awareness to help you increase the precision and profitability of manufacturing facilities you develop and purchase
- Find solutions to your 'real' design and manufacturing problems from this interactive learning opportunity
- Online opportunities for discussion with respected, and internationally recognised, precision engineering experts
- Check your learning progress by downloading assessments.

Course content

- Design of high-precision machines: analysis, principles and techniques
- The deterministic performance of machines
- Kinematic/Semi-Kinematic design
- Materials for precision machine structures
- Thermal effects
- Assessment of machine tool dynamic performance
- Ultra precision polishing processes
- Ultra precision single-point diamond machining
- High-precision hard turning of ferrous components
- Surface texture and form measurement
- High-performance grinding of conventional and brittle materials
- Machine metrology and calibration

Course Structure

The course is divided into four sets of lectures, each set consisting of between four and seven hours of lectures. Students are required to successfully complete an assessment before moving on to the next lecture set. Various course notes, patents, PDF's and HTML links are all available to download.

Online support is provided and students are able to contact the lecturers through an online contact area.

On successful completion of the course the delegate will be awarded a certificate of course completion from Cranfield University Precision Engineering Centre.

How to apply

Please visit:

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