

Industrial Doctorate in Nuclear Engineering

Industrial Doctorate Centre in Nuclear Engineering

The EngD consortium is led by the Dalton Nuclear Institute at **The University of Manchester** in partnership with **Imperial College London** and includes the universities of **Birmingham, Lancaster, Leeds, Sheffield, Strathclyde and Surrey**. Each has a track record of excellence in one (or more) of the research themes being offered:

- Reactor Technology
- Waste Management
- Decommissioning
- Materials
- Socio-economic aspects
- Safety Systems



The Engineering Doctorate (EngD) has 4 elements:

- | | |
|-------------------------------------|--------------------------------------|
| 1. Research Projects | 3. Technical Modules |
| 2. Diploma in Enterprise Management | 4. Mentored Professional Development |

Key Industrial Partners & Sponsors include

- 3i Technology Ltd
- AMEC Nuclear
- AWE
- Createc Ltd
- Corporate Risk Associates
- EDF Energy
- HSE
- MoD
- National Nuclear Laboratory
- Rolls-Royce plc
- Siemens
- TWI Ltd

Postgraduate Diploma in Enterprise Management

A key characteristic of an EngD is that the research is carried out within a commercial context. To ensure our REs understand this aspect of their work we give them the language and tools to uncover the commercial landscape within which their projects lie. This is achieved through a compulsory Postgraduate Diploma delivered by the Manchester Business School, which examines these key facets of how businesses operate and then asks REs to examine how their own sponsors manage them:

- New Product Innovation
- Marketing
- External Opportunities and Threats
- Business Operations
- Human Resource Management
- Financial Planning and Monitoring
- Effective Production
- Quality



Taught Technical Modules

REs take 3 technical modules, choosing either from those delivered by NTEC (Nuclear Technology Education Consortium) or from elsewhere. NTEC offers :

- 22 modules ranging from Reactor Physics to Nuclear Waste Disposal
- Access to over 90% of the nuclear postgraduate teaching expertise in the UK
- Short-course modular format
- Distance learning options



Mentored Professional Development

Our Research Engineers undertake a comprehensive set of 13 Professional Development Workshops designed to promote self-awareness and self-confidence and to develop a range of management and life skills. The experiential training format affords them valuable practice in areas such as:

- leadership and team development
- effective communication - in all formats
- negotiation and influencing skills
- project management
- creative thinking
- professional practice (including ethics)
- industrial law

In addition we encourage and support those that wish to work towards Chartership by virtue of our programme's accredited status with IET and IMechE



What our alumni say:

"The EngD programme met and exceeded all of my expectations in terms of professional development and as a springboard for my career; this was further enhanced by being sponsored by a company who really understand the objectives of the programme and by an academic supervisor who provided further opportunities for personal development."

"The Manchester EngD was a very rewarding experience, started my professional career, gave me valuable project management skills and knowledge for my current job in a large industrial company"

"A fantastic programme, giving great results for academia and industry"