



Key Characteristics sought in Doctoral Students by The University of Nottingham's Faculty of Engineering

The key characteristics necessary to study for any PhD are intelligence, tenacity and work ethic, and the ability to understand the breadth of a subject before then focusing on its depth in one key area.

For a PhD in Engineering, the Faculty of Engineering require an appropriate science or engineering background at first degree to provide subject knowledge, plus a demonstrable understanding of the proposed research topic, linked to knowledge of the appropriate Research Group and proposed Supervisors within the Faculty. It is also important to be able to seek out information and apply research methodologies. An inquiring mind linked to the ability to undertake critical thinking characterise all successful PhD students.

Doctoral students will typically have had diverse life experiences and varying opportunities during their undergraduate studies, thus each comes with a unique range of attributes. However, all doctoral graduates should be able to:

- Search for, discover, access, retrieve, sift, interpret, analyse, evaluate, manage, conserve and communicate an ever-increasing volume of knowledge from a range of sources
- Think critically about problems to produce innovative solutions and create new knowledge
- Plan, manage and deliver projects, selecting and justifying appropriate methodological processes while recognising, evaluating and minimising the risks involved and impact on the environment
- Use a wide range of scientific, engineering and computing tools & resources in, but not limited to, university laboratories, industrial settings and the field environment
- Exercise professional standards in research and research integrity, and engage in professional practice, including ethical, legal, and health and safety aspects, bringing enthusiasm, perseverance and integrity to bear on their work activities
- Support, collaborate with and lead colleagues, using a wide range of communication and networking skills to influence practice and policy in diverse environments
- Appreciate the need to engage in research with impact and to be able to communicate it to diverse audiences, including the public
- Build relationships with peers, senior colleagues, students and stakeholders with sensitivity to equality, diversity and cultural issues
- Furthermore, doctoral researchers are increasingly being encouraged to develop their foreign language capability, enterprise skills, and to cultivate business acumen, so demonstration of these attributes are of increasing importance.

For more information on the above, please visit the following links:

- Doctoral Degree Characteristics www.qaa.ac.uk/doctoral-degree-characteristics
- Engineering Researcher Development Framework www.vitae.ac.uk/vitae-publications/researcher-development-framework

Students who wish to study the Pre-Doctorate programme at the University of Nottingham International College, are advised to ensure that their research proposal is in line with one of the [22 research areas](#) outlined by the University of Nottingham's Engineering faculty.