



MSc Engineering **Surveying** and **Geodesy**

This course is designed for students who wish to develop an understanding and working knowledge of the principles and applications of a variety of surveying devices and techniques.

Versions of this MSc have been running at the University of Nottingham, UK, for almost 20 years. This course runs entirely at the University of Nottingham Ningbo China (UNNC), providing students with the ability to appreciate and apply state of the art engineering surveying techniques within a practical context. It includes the principles underpinning surveying, such as reference systems and geodesy, as well as the techniques and equipment used in engineering surveying, photogrammetry and satellite positioning systems such as GPS. UNNC is located in an excellent GNSS coverage area, from which both Beidou I+II/Compass and QZSS satellites can be observed.

In addition to the formal part of the course, we run practical classes, that allow students to see and learn how to use and operate a very wide variety of state of the art surveying equipment and software, including laser scanners, servo driven total stations, RTK and Network RTK GPS, digital and analogue photogrammetry, LiDAR, SAR and InSAR.

Students will develop:

- The ability to apply their skills directly within the surveying industry
- The ability to react quickly to new technologies and innovations
- The ability to communicate ideas effectively in written reports, verbally and through making presentations to groups
- The ability to exercise original thought
- The ability to plan and undertake an individual project
- Interpersonal, communication and professional skills





MSc Engineering Surveying and Geodesy

Course structure

The course consists of 120 credits of taught modules along with a 60 credit major individual research-based project undertaken over the summer term. It is also available as a postgraduate diploma which covers the same taught modules, but does not include the research project. Please be aware modules are subject to change.

The course is accredited by the Royal Institution of Chartered Surveyors (RICS) and the Chartered Institution of Civil Engineering Surveyors (CICES).

Pre-master Programme

The Pre-master Programme is part of the two-year postgraduate programme. It is designed for those students who have not reached the language level required to enter postgraduate degree programmes directly. The aim is to help such students succeed in their future studies at UNNC. It equips students with the language and study skills that they need to manage their studies independently, so that they can meet the demands of their academic course.

Modules

Fundamentals of Satellite Positioning
Analytical Methods
Geodetic Reference Systems
Physical Geodesy
Advanced Satellite Positioning
Engineering Surveying
Photogrammetry and Remote Sensing
Practical Field Course

The finale of the taught element of the course is the surveying field course, which brings together all the taught aspects through a week-long series of practical tasks.

Individual project

Once you have completed the taught modules, you will undertake a supervised research project over the summer term. Students receive dedicated supervision from staff members. This is a key component of the degree, affording students the opportunity to conduct independent research which may be related to their future employment.

Previous research projects have included:

- Beidou and QZSS performance and multipath effect in precision agriculture
- Laser scanning and photogrammetry for forest and woodland surveys
- Testing of a new small format integrated sensor airborne mapping system
- A new method used for scintillation index simulation

Funding opportunities

Funding options can be found at:

www.nottingham.edu.cn/en/research/fundingopportunities

Employment prospects

Students will graduate with the skills to take on or develop a technical, managerial or advisory role. Graduate destinations from the original MSc courses have included: the Armed Forces, EADS-Astrium, Fugro, Jacobs, LogicaCMG, QinetiQ, and Thales Group.

Entry requirements

Applicants are usually required to have a 2.1 honours degree (or international equivalent) for the MSc, in a relevant discipline, for example science, engineering or mathematics. Other qualifications and/or extensive professional experience may also be accepted.

English language requirements:

Pre-master

- IELTS 5.5 with no less than 5.0 in the writing element
- TOEFL (paper-based) 525 + TWE no less than 4.0
- TOEFL (computer-based) 196 + TWE no less than 4.0
- TOEFL (IBT) 71 with no less than 17 in any element

MSc

- IELTS score of at least 6.0 with a minimum score of 5.0 in individual elements
- TOEFL (paper-based) score of at least 550 + TWE no less than 4.0
- TOEFL (computer-based) score of at least 210 + TWE no less than 4.0
- TOEFL (IBT) 79 with a minimum of 17 in any element

How to apply

Candidates are encouraged to apply online at:

www.nottingham.edu.cn/en/admissions/domestic-students/postgraduate/2howtoapply

Contact us

For further information, please contact:

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