

# Civil Engineering Surveying

**This programme is no longer recruiting. Please refer to the programme specification for BSc (Hons) Civil Engineering Surveying & Mapping Sciences.**

<b>Final award</b>	BSc (Hons)
<b>Intermediate awards available</b>	Cert HE, Dip HE,
<b>UCAS code</b>	H242
<b>Details of professional body accreditation</b>	Chartered Institution of Civil Engineering Surveyors
<b>Relevant QAA Benchmark statements</b>	Building / Surveying Engineering; Geography
<b>Date specification last up-dated</b>	May 2013

## Profile

### The summary - UCAS programme profile

#### **BANNER BOX:**

This area of study is particularly sought after in the current job market.

#### **ENTRY REQUIREMENTS**

240 UCAS tariff points

Including two A2 passes

#### **ABOUT THE PROGRAMME**

##### **What is Civil Engineering Surveying?**

This programme combines the core practices of land surveying, engineering surveying, geodetic surveying and the design of measurement systems alongside the study of construction, Geomatics and professional issues. This leads to a pivotal role within the construction profession.

##### **Civil Engineering Surveying at UEL**

We have over 60 years of experience in teaching Surveying and have developed programmes which are current and will give you the opportunity to develop your understanding and skills. This is now combined with the Civil Engineering section of the School of Computing, Information Technology and Engineering. Our programmes have long been recognised in Industry as providing graduates with a wide range of practical and theoretical skills. With a large proportion of laboratory and practical work you will reinforce the theories and practices learnt in the classroom with 'hands on' experience. Our programmes offer you the opportunity

to study the fundamental knowledge and theories required by all Civil Engineering Surveyors and apply these to the practical work environment.

### **Programme structure**

3 Year full time. The programme is modular and available in a part-time mode. The programme is taught in combination with other degrees in Surveying making it possible to change between pathways in the first year.

### **Learning environment**

The programme benefits from access to purpose built labs, up-to-date software, IT labs and modern surveying equipment. Teaching is delivered through formal lectures, tutorials, problem based learning, practical classes and laboratory sessions. Group work is also encouraged in many modules. There is a field scheme in the first year.

### **Assessment**

Assessment varies from module to module but will include examinations, coursework, project work, laboratory reports, time constrained and open book assignments and tests on competence in practical sessions.

### **Work experience/placement opportunities**

The School has strong links with industry and regularly has enquiries from employers seeking staff for full and part-time employment opportunities.

### **Project work**

The dissertation in the final year is an important feature of this programme. Throughout your studies you will undertake a number of small projects as part of the unit assessment. During the final year of the programme you will be required to complete a project in the form of independent research and study of a technical subject. This project will be supervised by a member of staff with an interest in the field and will normally include some laboratory work or the analysis of a specific survey problem. The project constitutes one third of the final year of the programme.

### **Added value**

The programme is accredited by the Chartered Institution of Civil Engineering Surveyors and meets the academic requirements for graduate membership. It benefits from the inclusion of elements which contribute to the core competencies of the professional institution.

## **IS THIS THE PROGRAMME FOR ME?**

### **If you are interested in...**

- Civil Engineering
- Construction
- Surveying

- Professional Management
- Health and Safety
- Geodetic Surveying
- Computing

### **If you enjoy...**

Design, variety, working both indoors and outdoors, maths, science, physics, technology, IT and a career that can really make a difference to society.

### **If you want...**

A degree with a real practical emphasis geared to meet the needs of employers and the opportunity to study specialisms such as Construction, Engineering Surveying, Geodetic Surveying and Hydrographic Surveying.

### **Your future career**

Might be in Surveying, construction, large and small-scale projects, project management, health and safety, and precise measurement. Graduates have also successfully moved to careers in business, management and finance.

### **How we support you**

The School prides itself on its student support systems. Students are encouraged to consult with their Personal Tutors, Modules Leaders and the Programme Leader. We will monitor your progress and provide assistance and advice with academic and personal problems.

Alternatively, you can refer to our Student Services support who can offer further, specialised, help and support.

The School facilities include dedicated computer labs and equipment which you are free to use, as long as they are not required for a class. Technical support is readily available supported by technicians and academic staff.

Employer links are maintained through our Industrial Advisory Board and employers are invited to attend the University to talk to students about careers in Surveying. The professional bodies also visit the University regularly and provide details on the qualification process and the advantages available to members.

### **Bonus factors**

Local and national Civil Engineering & Surveying companies regularly contact us seeking to recruit quality students for work within the industry.

## **Outcomes**

### **Programme aims and learning outcomes**

## **What is this programme designed to achieve?**

This programme is designed to give you the opportunity to:

- To provide you with the subject knowledge and understanding, subject specific skills and cognitive skills within the spectrum of spatial measurement, spatial information management, measurement for construction and dimension control;
- To have an awareness of changes in society, the economy and technologies; their impact on evolving professional practices and in particular their implications for lifelong learning;
- To work and study within an institutional context of equal opportunities and broadening access for individuals from varying academic and cultural backgrounds;
- To enable you to have the ability to effectively communicate orally, literally, graphically and numerically using appropriate office automation;

## **What will you learn?**

### **Knowledge**

- An understanding and practical working knowledge of an appropriate range of technologies for the effective, viable and innovative solution to a wide range of spatial problems
- An understanding of the scientific principles underlying their discipline and an ability to assess the significance of development in both theory and practice;
- An understanding and practical working knowledge of an appropriate range of technologies applied in both standard and non-standard situations.

### **Thinking skills**

- How to analyse which technology to use to solve which problem, with the understanding of the background issues of spatial data and spatial measurement;
- The procedures for the process of analysing information, from spatial data issues to measurement solution.
- To be able to work within a multi-cultural society.

### **Subject-Based Practical skills**

- An understanding of the scientific principles underlying the discipline and an ability to assess the significance of developments in both theory and practice;
- How the changes in technology and technological solutions are linked to data quality and data collection;
- To gain an appreciation for spatial data - their collection, management and application - particularly with regards to the issues of data quality and responsibility.

### **Skills for life and work (general skills)**

- The analytical, managerial and professional skills required for entry into professional careers.
- Transferable skills and an appreciation of lifelong learning and continuing professional development

- The ability to effectively communicate.

## Structure

### The programme structure

#### Introduction

All programmes are credit-rated to help you to understand the amount and level of study that is needed.

One credit is equal to 10 hours of directed study time (this includes everything you do e.g. lecture, seminar and private study).

Credits are assigned to one of 5 levels:

- 0 - equivalent in standard to GCE 'A' level and is intended to prepare students for year one of an undergraduate degree programme
- 1 - equivalent in standard to the first year of a full-time undergraduate degree programme
- 2 - equivalent in standard to the second year of a full-time undergraduate degree programme
- 3 - equivalent in standard to the third year of a full-time undergraduate degree programme
- M - equivalent in standard to a Masters degree

#### Credit rating

The overall credit-rating of this programme is 360 credits.

#### Typical duration

**Full-time** - Normally three calendar years of study

**Part-time day release** - minimum duration of five calendar years and up to a maximum of eight calendar years

**Part-time block release** - for applicants with extensive experience in industry a block-release programme of three years minimum duration.

#### How the teaching year is divided

**For full-time mode**, students will study 120 credits a year. Normally made up of 6 20 credit modules.

**Part-time day release**, students normally study 60-80 credits a year, normally made from 3 or 4 modules.

**Part-time block release**, each block will contain 2 modules. There will be two 4 week blocks per year.

### What you will study when

This programme is part of a modular degree scheme. A typical full-time student will take six 20 credit modules per year. An honours degree student will complete six modules at level one, six at level 2 and six at level 3.

It is possible to bring together modules from one subject with modules from another to produce a combined programme. Subjects are offered in a variety of combinations:

- Single - 120 credits at levels one, two and three
- Major - 80 credits at levels one, two and three
- Joint - 60 credits at levels one, two and three
- Minor - 40 credits at levels one, two and three

Modules are defined as:

- Core - Must be taken
- Option - Select from a range of identified modules within the field
- University wide option - Select from a wide range of modules across the University

The following are the core and optional requirements for the single and major pathways for this programme

Year	Module Code	Module title	credit	status	Skills
1	SV1031	Plane Surveying	20	Core	
1	SV1032	Quantitative Methods	20	Core	
1	SV1040	Skills for Surveying	20	Core	Y
1	SV1034	Mapping	20	Core	
1	SV1035	Introduction to GIS	20	Option	
1	CE1211	Geomatics & Construction	20	Core	
2	SV2031	Applied Information Technology	20	Option	
2	SV2036	Survey Mathematics	20	Option	
2	CE2208	Construction & Contract Management	20	Option	
2	SV2032	Data Acquisition and 3D Modelling	20	Option	
2	SV2038	Geodetic Surveying	20	Option	
2	SV2040	Engineering Measurement	20	Option	
3	SV3031	Dissertation	40	Core	Y (incl research skills)
3	SV3034	Sea Surveying	20	Option	
3	CE3209	Ethical and Environmental Studies	20	Option	

3	SV3050	Surveying Project Design and Implementation	20	Option	
3	SV3052	Management and Professional Studies for Geomatics	20	Core	Y (incl employability skills)

### Requirements for gaining an award

In order to gain an honours degree you will need to obtain 360 credits including:

- A minimum of 120 credits at level one or higher
- A minimum of 120 credits at level two or higher
- A minimum of 120 credits at level three or higher

In order to gain an ordinary degree you will need to obtain a minimum of 300 credits including:

- A minimum of 120 credits at level one or higher
- A minimum of 120 credits at level two or higher
- A minimum of 60 credits at level three or higher

In order to gain a Diploma of Higher Education you will need to obtain at least 240 credits including a minimum of 120 credits at level one or higher and 120 credits at level two or higher

In order to gain a Certificate of Higher Education you will need to obtain 120 credits at level one or higher.

In order to gain a Foundation Degree you will need to obtain a minimum of 240 credits including:

- A minimum of 120 credits at level one or higher
- A minimum of 120 credits at level two or higher

(A foundation degree is linked to a named Honours degree onto which a student may progress after successful completion of the Foundation degree.)

### Degree Classification

Where a student is eligible for an Honours degree, and has gained a minimum of 240 UEL credits at level 2 or level 3 on the programme, including a minimum of 120 UEL credits at level 3, the award classification is determined by calculating:

$$\frac{\text{The arithmetic mean of the best 100 credits at level 3}}{\times 2/3} + \frac{\text{The arithmetic mean of the next best 100 credits at levels 2 and/or 3}}{\times 1/3}$$

and applying the mark obtained as a percentage, with all decimal points rounded up to the nearest whole number, to the following classification

70% - 100% First Class Honours

- 60% - 69% Second Class Honours, First Division
- 50% - 59% Second Class Honours, Second Division
- 40% - 49% Third Class Honours
- 0% - 39% Not passed

## **Assessment**

### **Teaching, learning and assessment**

#### **Teaching and learning**

Knowledge is developed through

- Lectures where the main subjects are introduced.
- Directed practical laboratory/field sessions where students are guided in how to use the technology
- Seminars, where discussions are used to further the ideas introduced in the main lectures

Thinking skills are developed through

- Tutorials, where students are guided by self-directed study to allow for the further discussion of the ideas introduced in the main lectures
- Practical laboratory and field work where students apply their knowledge learnt by completing practical tasks
- Dissertation in the final year, where students take a chosen topic which has a scientific/practical base allowing the students to conceptualise their own ideas.

Practical skills are developed through

- Practical laboratory work, both self-directed and lecturer-directed.
- Field work, both self-directed and lecturer-directed.
- The first year field scheme, where student work in groups to solve real word problems

Skills for life and work (general skills) are developed through

- The inclusion of professional ethics and studies in both the second and final year.
- The use of technology, and the changes in technology introduced in the majority of modules
- Presentation skills.

#### **Assessment**

Knowledge is assessed by

- Examinations
- Practical work
- Experiments

Thinking skills are assessed by

- Essays
- Reports
- Presentations

Practical skills are assessed by

- Laboratory work
- Field work
- Laboratory reports

Skills for life and work (general skills) are assessed by

- Presentations
- Within all the coursework
- The practical work both in the laboratories and field work, that are based on real world problems

## **Quality**

### **How we assure the quality of this programme**

#### **Before this programme started**

Before the programme started, the following was checked:

- there would be enough qualified staff to teach the programme;
- adequate resources would be in place;
- the overall aims and objectives were appropriate;
- the content of the programme met national benchmark requirements;
- the programme met any professional/statutory body requirements;
- the proposal met other internal quality criteria covering a range of issues such as admissions policy, teaching, learning and assessment strategy and student support mechanisms.

This is done through a process of programme approval which involves consulting academic experts including some subject specialists from other institutions.

#### **How we monitor the quality of this programme**

The quality of this programme is monitored each year through evaluating:

- external examiner reports (considering quality and standards);
- statistical information (considering issues such as the pass rate);
- student feedback.

Drawing on this and other information programme teams undertake the annual Review and Enhancement Process which is co-ordinated at School level and includes student participation. The process is monitored by the University's Quality Standing Committee.

Once every six years an in-depth review of the whole field is undertaken by a panel that includes at least two external subject specialists. The panel considers documents, looks at student work, speaks to current and former students and speaks to staff before drawing its conclusions. The result is a report highlighting good practice and identifying areas where action is needed.

### **The role of the programme committee**

This programme has a programme committee comprising all relevant teaching staff, student representatives and others who make a contribution towards the effective operation of the programme (e.g. library/technician staff). The committee has responsibilities for the quality of the programme. It provides input into the operation of the Review and Enhancement Process and proposes changes to improve quality. The programme committee plays a critical role in the University's quality assurance procedures.

### **The role of external examiners**

The standard of this programme is monitored by at least one external examiner. External examiners have two primary responsibilities:

- To ensure the standard of the programme;
- To ensure that justice is done to individual students.

### **Listening to the views of students**

The following methods for gaining student feedback are used on this programme:

- Module evaluations by questionnaires given to students in each semester
- Student representation on field committees meeting 2 times year
- Final year student debrief session - takes place the morning of the assessment board.

Students are notified of the action taken through:

List the methods that you use e.g.

- circulating the minutes of the field committee
- Information placed on internal web pages
- Being notified in classes where all the year students are present.

### **Listening to the views of others**

The following methods are used for gaining the views of other interested parties:

List the methods that you use e.g.

- Questionnaires to former students when needed

- Industrial liaison group.
- Newsletter to ex students and employers
- Attending trade and professional meetings to both canvas for views of the profession and to inform the profession of what we are doing.

## Further Information

### Alternative locations for studying this programme

Location	Which elements?	Taught by UEL staff	Taught by local staff	Method of Delivery
-	-	-	-	-

### Where you can find further information

Further information about this programme is available from:

- The UEL web site
- The student handbook
- UEL Manual of Regulations and Policies <http://www.uel.ac.uk/qa/>
- UEL Quality Manual <http://www.uel.ac.uk/qa/>
- Regulations for the Academic Framework <http://www.uel.ac.uk/academicframework/>
- Institution of Civil Engineers <http://www.ice.org.uk/>
- School of Computing, Information Technology and Engineering web pages <http://www.uel.ac.uk/cite>
- Surveying notice board giving details of prospective jobs, professional meeting and conferences.