

## Section 1: Basic Data

Awarding institution/body: **UWE**

Teaching institution: **UWE**

Faculty responsible for programme: **FBE**

Programme accredited by: **CIOB**

Highest award title: **BSc/BSc(Hons) Construction Management**

Default award title:

Interim award title: **DipHE Construction Management  
CertHE Construction Management  
BSc Construction Management  
BSc Built and Natural Environments**

Modular scheme title: **Undergraduate Modular Scheme**

UCAS codes: **K252**

QAA subject benchmarking group(s): **Building and Surveying**

Valid until:

Valid from: **2001**

Authorised by: **UG Modular Scheme Director** Date:

Version code: **1**

Version year: **2005**

## Section 2: Educational aims of the programme

The overall aims of the Award are to:

1. Motivate and equip graduates to play a leading role in meeting the challenges posed by changes in the construction industries, and to exploit the opportunities offered by the changes.
2. Develop students' intellectual, analytical and problem solving skills and encourage the development of mature and independent judgement leading to effective decision making
3. Provide a forum for students to share their developing experience, knowledge and skills, in particular with students on other BE professional awards
4. Enable students to identify and evaluate research and innovation needs within the profession and provide support for research and project work
5. Give students an appreciation of the economic, social, political and technological factors which influence the evolution and development of the built environment.
6. Engender an attitude within students towards intellectual enquiry and learning which will encourage students to consider the award as only the first stage of a life long educational process, including the possibility of embarking on further studies at postgraduate level.

## Section 3: Learning outcomes of the programme

### A: Knowledge and understanding

#### By the end of the programme, the student should be able:

1. To identify the role of user requirements, functional requirements, performance standards and legislation in building design.
2. To analyse the functional performance of the building fabric, its structure and environmental systems, and the design assumptions upon which they are based.
3. To analyse in scientific terms the properties of building materials and components and assess their likely behaviour during construction, use and in the subsequent processes of disposal or recycling recognising the aims of sustainability.
4. To identify the variable internal and external factors affecting production technologies, resources of production, buildability and the production process.
5. To identify and understand the management of health and safety in the construction context and how to fulfil responsibilities effectively.
6. To identify the elements of contract and the obligations and responsibilities of the parties and the effect on the cost and administration of the project.
7. To identify and understand the economic factors that influence both design and production decisions.
8. To identify and evaluate contemporary construction procurement methods and their associated contractual arrangements.
9. To recognise the interdependence of design and production decisions including in the area of health and safety.
10. To examine the use of IT in the construction process and identify its growing importance within the management of the construction process.
11. To identify strategies to manage people and lead the construction process.
12. To identify current management paradigms and strategies and examine their effectiveness in the context and culture of the construction industry.
13. To recognise the importance of and approaches to achieving optimum utilisation of the resources used in the production process.
14. To identify and analyse the requirements of construction industry clients and recognise the importance of time, cost, quality and value throughout the whole life cycle of projects.
15. To examine the role and responsibilities of the members of the development team, within the UK and other European countries.

#### Teaching/learning methods and strategies

Acquisition of these outcomes will primarily be through lectures and seminars/workshops and lab sessions with sessions designed to encourage interaction of the student and tutor.

Candidates will consolidate their knowledge and understanding through directed reading, site visits, field trips and other formative work and will be encouraged to share and develop that knowledge. IT applications and software will be used where appropriate in technical calculations, project management and students will have access to electronically produced support materials for modules on the faculty web.

#### Assessment

The knowledge base is tested by examination, oral presentations, experimental work in the lab and assessed coursework including project case studies.

## B: Intellectual skills

### By the end of the programme, the student should be able:

1. To analyse situations and problems critically, objectively and logically and subsequently postulate and implement realistic solutions.
2. To address a series of complex problems and develop appropriate solutions, including solutions contrary to accepted practices.
3. To integrate information from a range of primary and secondary sources and objectively interpret, analyse their implications.
4. To bring a broad professional and ethically informed perspective, including environmental and social awareness, to bear on issues relating to construction.
5. To recognise and respect diversity including differing values and objectives of the various built environment professions and their obligations to each other and society.
6. To recognise the role of value judgements in social, economic and technological decisions, and identify their source, effect and the necessity of arriving at realistic solutions.
7. To demonstrate imagination and creativity in the resolution of problems in projects.
8. To analyse and plan how resources used in the construction process can be utilised to achieve optimum resource utilisation and productivity to ensure that the design is brought to fruition to the required levels of quality and reliability within financial, legal, time environmental and safety constraints.
9. To communicate and justify solutions to those concerned with the design and production of buildings.

### Teaching/learning methods and strategies

Intellectual skills are developed through seminar discussions and individual tutoring, for example, for the dissertation and project modules.

Evaluation and problem solving skills are developed by using projects which use real life development sites or case studies with client briefs by considering spatial, structural and servicing design and management options to satisfy clients with tutors or in peer groups.

Students will be expected to undertake formative work and will receive feedback to enhance their intellectual skills. Tutors provide feedback individually and in groups.

Respect and awareness of the objectives and values of others are developed through the inter-professional modules which require students to work in groups with students drawn from across the Faculty's professional programmes.

### Assessment

A variety of assessment methods are used but the use of oral presentation, research and project reports is the most common approach. Project and design reports may be based on a portfolio or work completed over the session. Analytical reports will also be used as well as discursive questions in open and closed examinations.

Interdisciplinary projects are used to assess students' ability to integrate a variety of approaches and sources of information including some peer group assessment and oral presentations.

## C: Subject, Professional and Practical Skills

### By the end of the programme, the student should be able:

1. To produce detailed calculations to support design solutions.
2. To employ laboratory based experimental work to enhance the understanding of scientific concepts.
3. To apply mathematical applications appropriate to the study of construction.
4. To produce well-proportioned sketches and interpret formal drawings.
5. To analyse structures using computer software.
6. To select and use appropriate items of surveying equipment.
7. To employ planning models to identify the types of resources needed for building operations.
8. To develop designs and safe systems of work which protect the environment and the health and safety of those affected by construction processes.
9. To plan and co-ordinate both people and technical tasks to achieve the overall work functions associated with the management of construction, including the co-ordination of interfaces between different trades.
10. Calculate and produce cost analysis and estimating data in standard formats.
11. To plan developments appropriate to the project environment and market conditions.
12. To develop operational methods that can be conducted in an economic, safe and sustainable manner.
13. To design and execute research using a variety of data collection methods including drawing on the existing literature and using experimental methods .

### Teaching/learning methods and strategies

Design calculations, experimental work and data analysis are taught in lectures, seminars and supervised lab sessions which often employ interactive software eg geotechnical and structural calculations. Sketches are tutored in small group seminars; finance and planning models eg cost planning and CPM in seminars to discuss case studies and also using proprietary software applications and simulations. Videos, slides and field trips and visiting speakers are used to illustrate techniques and management styles, safe methods of working and problem solving. Practical workshops are used to learn the use of surveying equipment eg theodolite.

The ability to design and undertake research is introduced through the Inter-professional Development Project and consolidated and applied in the Dissertation or Project A module at level 3.

The sandwich programme offers students the opportunity to gain industry based experience. Field work provides similar opportunities to site visits, sometimes in a different cultural context.

### Assessment

Reports and calculations are handed in for summative assessment, testing the application of formulae, providing discussion and interpretation of experimental results, data analysis. Statistical, financial and cost analysis and IT applications are also used and reports submitted which apply these to case study data.

The ability to design and undertake research is assessed through a range of projects and finally via the Dissertation or Project A module at level 3.

Industry based experience is assessed on a pass fail basis and by analytical and reflective reports. An analytical report of fieldwork is included in the project management module. H&S awareness is assessed by portfolio & report.

## D: Transferable skills and other attributes

### By the end of the programme, the student should be able:

1. To demonstrate expertise in the application of IT in the context of the construction industry
2. To communicate information and ideas clearly, imaginatively and succinctly
3. to demonstrate effective oral and written presentation skills
4. To utilise and communicate information in quantitative terms and recognise the limits of error inherent in this approach.
5. To demonstrate the qualities of versatility, enterprise, independence and self-reliance
6. To use management and interpersonal skills to deal with tensions and conflict and negotiate tasks
7. To work independently, or as part of a cognate or multi-discipline team and demonstrate motivation and leadership
8. To work effectively with others in a range of contexts and with respect and understanding for the perspectives of others with an awareness of equal opportunities issues
9. To manage relationships at work in order to manage conflict and avoid disputes

### Teaching/learning methods and strategies

IT applications are embedded in the modules throughout the programme starting with data analysis. IT teaching takes place in labs with dedicated software applications many of which have been specifically written for the construction industry like cost planning, CAD, visualisation and project management software are applied to the industry.

People management skills and team working are taught in interactive seminars using indicators, role play and simulation as well as discussion to interpret outcomes. All Interdisciplinary and most projects have an element of group research, team working, negotiation and oral presentation, some to an external audience. Sandwich students have additional experience in working in the wider organisational context.

### Assessment

Clarity of written presentation and ideas is assessed formally at level 1 as are other transferable skills such as oral presentations and report writing. At the later stages, the assessment of these skills is embedded in assessment of other learning outcomes and becomes steadily more rigorous at each level. Assessed oral presentations and team working are used at all levels, particularly in the inter-disciplinary and project modules.

## Section 4: Programme structure

FIGURE 1: AWARD STRUCTURE DIAGRAM

### BSc (HONS) CONSTRUCTION MANAGEMENT

#### Recommended Routeway for FT Students

#### YEAR 1

SEM 1	Business Economics & Management for Construction UBIL6Y-20-1	Introduction to Law & Construction Contracts UBCL7B-20-1	Design Project (CM) UBCLBT-20-1	Environments & Construction Materials UBCLC5-20-1	Construction Technology A UBCLBX-20-1	Process of Development UBIL75-10-1	Data & Analysis UBCLBY-10-1
SEM 2							

#### YEAR 2

SEM 1	Structural Design Technology UBCLHE-20-2	Site Management & Engineering UBCLCT-20-2	Project Planning & Economics UBCLCN-20-2	Construction Technology B UBCLCF-20-2	Shared Elective	Building Services Engineering UBCLCB-10-2	Interprofessional Development Project UBIL76-10-2
SEM 2					Shared Elective		

#### OPTIONAL PLACEMENT

#### YEAR 3

SEM 1	Dissertation A UBILF3-20-3 OR	Services & Structures UBCLDD-20-3 OR	Project & Contract Management UBCLDC-20-3	Production Management UBCLDB-20-3	Technological Innovation & Life Cycle UBCLDF-20-3	Management Strategies UBCL4F-10-3	Inter-disciplinary Issues UBIL4N-10-3
SEM 2	Project A UBCL4L-20-3	Financial & Human Resource Management UBCLD9-20-3					

## BSc(Hons) CONSTRUCTION MANAGEMENT

### Recommended Routeway for Part Time Day Release Students

PT 1.1

SEM 1	Environments & Construction Materials UBCLC5-20-1	Construction & Technology A UBCLBX-20-1	Process of Development UBIL75-10-1	Data & Analysis UBCLBY-10-1
SEM 2				

PT 1.2

SEM 1	Design Project (CM) UBCLBT-20-1	Business Economics & Management for Construction UBIL6Y-20-1	Introduction to Law & Construction Contracts UBCL7B-20-1
SEM 2			

PT 2.1

SEM 1	Construction Technology B UBCLCF-20-2	Site Management & Engineering UBCLCT-20-2	Structural Design Technology UBCLHE-20-2	Experiential Learning A (Decision Making) UBILJF-20-2
SEM 2				

PT 2.2

SEM 1	Technological Innovation & Life Cycle UBCLDF-20-3	Project Planning & Economics UBCLCN-20-2	Management Strategies UBCL4F-10-1	Building Services Engineering UBCLCB-10-2	Experiential Learning (CEME) B UBCLPR-20-3
SEM 2					

YEAR 3

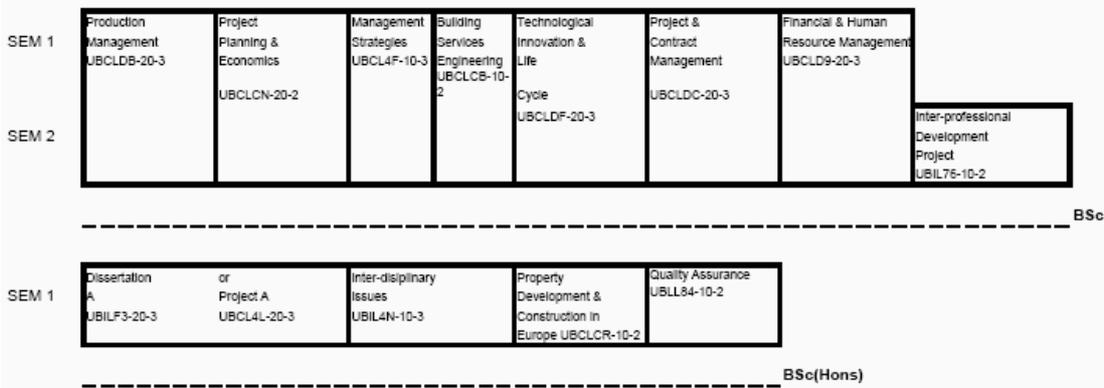
SEM 1	Production Management UBCLDB-20-3	Project & Contract Management UBCLDC-20-3	Financial & Human Resource Management UBCLD9-20-3	Dissertation A UBILF3-20-3
SEM 2			OR Services and Structures UBCLDD-20-3	OR Project A UBCL4L-20-3

FIGURE 1A: AWARD STRUCTURE DIAGRAM

**BSc/BSc(Hons) CONSTRUCTION MANAGEMENT**  
**HND Conversion Programme**

**Recommended Routeway for Full Time Students**  
**(Definitive)**

YEAR 1



The programme can be taken on a full-time basis over three years, as a sandwich programme over four years or by part-time day release study over five years. A conversion programme for those with who have completed their HND is also available leading to an unclassified degree in a year of full-time study or to honours over a minimum of 18 months.

Students completing 200 credits are eligible to spend a year in placement employment. On successful completion they will receive placement credit.

The first year of the award is taken in common with students on the Construction Commercial Management and Construction and Property Management programmes. Students may therefore, subject to the achievement of appropriate entry requirements, automatically transfer into the second year of any of these awards.

The programme includes a series of modules that promote inter-professional working and, in addition, it includes a number of other modules shared with other programmes which provides further opportunities for contact between different disciplines and professional groups.

The shared elective modules offer students a wide range of additional subjects from which to choose, including computer modelling, GIS, effective media presentation and many others.

### 3.1 The Core Themes

The central core of the curriculum is designed to provide a blend of technical and management modules, the combination of which reflects the context of contemporary construction management, and which matches the evolving framework of the CIOB.

Core themes which can be tracked throughout the three levels of study.

#### Technical and Technological Aspects

Students address the nature of technology in general and the technical, technological and production aspects of buildings in particular. Through the analysis of building performance they challenge design decisions, including the choice of materials and structural and environmental systems, and investigate the inter-dependent nature of technical choice through the critical appraisal of current design practice and production processes.

The properties of materials and the performance of structural and environmental systems are analysed, both during construction and in service. This is necessary in order to specify, or to interpret the specification of, suitable materials, and to appreciate the long-term effects of decisions made during the construction process. These effects will be on the technical and economic performance of the building not only in the context of the building itself but also in the wider context of the environment to ensure sustainable construction.

This 'technical' material is also broadened in the Construction Technology modules to embrace wider technological considerations such as the requirements of the user, problem solving heuristics, the development process, health and safety, the context of the site and conflicts in design.

#### Economics and Financial Management

In the 'economics' and 'financial management' aspects of the curriculum the students will gain an understanding of those macro-economic factors which condition construction activity, the structure of the construction industry, the structure of its markets and the environment in which construction business operate.

Students will develop an understanding of the business and financial management of individual construction firms and their clients, as well as the procedures and responsibilities involved in the financial management of a construction project. This involves an understanding of the dynamics of change in the construction industry.

#### Management

The development of the theme is structured to develop an understanding of the complex sets of issues involved in the management of human enterprise in general, and the construction process in particular. Initially, the principles of management are introduced in order to develop an appreciation of the context of construction and business and project management.

The theme continues by introducing planning and organisational concepts and examining the scope, use and limitations of quantitative models with particular reference to their use in the construction industry. The main objective is to develop the students' understanding of the human and organisational factors involved in managing the building process. The modules explore the techniques for planning and controlling the use of resources in the context of construction, including issues such as environmental considerations, occupational health and safety requirements and risk assessment.

#### Law

The award includes modules dealing with the legal aspects of construction contracts and the management of built assets as required to meet the learning outcomes. It is increasingly important for graduates to be able to advise clients on setting up and effectively operating a growing range of procurement methods and contractual procedures to suit the characteristics of each project. They must also be familiar with the regulations governing the design, construction and use of buildings including workplace regulations, building regulations, construction design and management and health and safety regulations which occur as a direct consequence of legislation.

#### Sustainability

Sustainability is examined in a number of different ways and at different levels, with the aim of avoiding too narrow a definition of the term while providing the students with a coherent framework related to these issues to underpin their learning on the award.

In the early part of the programme, sustainability issues are related to the selection of materials and technologies, energy efficiency and design criteria. These are put into the context of development processes at a micro-level and also related to the economic climate in a broader context. This continues with a consideration of construction and resource management and business planning.

In the final year modules this issue is tackled at a local and global level and place the particular perspective of the Award into the broader context of sustainability of the Built Environment.

#### Health and Safety

There has been a growing concern and increasing legislation relating to both these issues in recent years and they are addressed in a number of ways. The teaching commences by focussing on the development of the principles relating to these issues (Project planning and economics) and then relating them to the best practice on site in both the technology and site management modules in the second year.

In the final year these subjects are addressed in both terms of policy and at a strategic level in the technology and management modules.

### 3.2 Industrial/Professional Placement

Students must complete 200 credits from the first two years of the full-time/sandwich programme before being eligible to undertake a placement.

### 3.3 Field Visits

A range of site visits and field courses supplements students college based learning. Field visits form an important part of the student experience. They include a residential field visit, normally held in a continental European country.

## Core modules

### Level 1

UBIL6Y-20-1: Business Economics & Management for Construction (20)

UBCLBX-20-1: Construction Technology A (20)

UBCLBY-10-1: Data and Analysis (10)

UBCLBT-20-1: Design Project (CM) (20)

UBCLC5-20-1: Environments and Construction Materials (20)

UBCL7B-20-1: Introduction to Law and Construction Contracts (20)

UBIL75-10-1: The Process of Development (10)

### Level 2

UBCLCB-10-2: Building Services Engineering (10)

UBCLCF-20-2: Construction Technology B (20)

UBCLCN-20-2: Project Planning and Economics (20)

UBCLCT-20-2: Site Management and Engineering (20)

UBCLHE-20-2: Structural Design Technology (20)

### Level 3

UBCL4F-10-3: Management Strategies (10)

UBCLDB-20-3: Production Management (20)

UBCLDC-20-3: Project and Contract Management (20)

UBCLDF-20-3: Technological Innovation and Life Cycle (20)

## Optional modules

Students must take 40 credits from the following modules. NOTE Experiential modules can only be taken by students in relevant employment.

### 20 Credits Shared Electives

UBILJF-20-2: Experiential Learning A (Decision Making) (20)

UBCLPR-20-3: Experiential Learning B (CEME) (20)

UBIL76-10-2: Inter-professional: Development Project (10)

UBIL4N-10-3: Interdisciplinary Issues (10)

Students must take one of the following modules:

UBILF3-20-3: Dissertation A (20)

UBCL4L-20-3: Project A (20)

Students must take one of the following modules:

UBCLD9-20-3: Financial and Human Resource Management (20)

UBCLDD-20-3: Services and Structures (20)

Conversion to honours students must take the following 20 credits

UBCLCR-10-2: Property Development & Construction in Europe (10)

UBLL84-10-2: Quality Assurance (10)

## Placement

120 P credits

Placements

## Target Award

### BSc/BSc(Hons) Construction Management

360 credits with at least 100 credits at level 3, a further 100 at level 2 or above and a further 140 at level 1 or above

### Default Award

### Interim Awards

#### BSc Built and Natural Environments

300 credits with at 60 credits at level 3, a further 100 credits at level 2 or above and a further 120 at level 1 or above

#### BSc Construction Management

300 credits with at 60 credits at level 3, a further 100 credits at level 2 or above and a further 120 at level 1 or above

CertHE Construction Management

120 credits with at least 100 at level 1 or above

DipHE Construction Management

240 credits with at least 100 at level 2 and a further 120 credits at level 1 or above

## **Section 5: Entry requirements**

Students must have achieved a grade C or above in Maths and English GCSEs. An A2 or AS qualification in either Maths or a Physical Science is desirable although not essential.

See also the Standard faculty entry requirements apply.

Students with a relevant HNC may be have their credit recognised against the level 1 modules and may enter into FT year 2 or PT year 2.1.

Students with a relevant HND may be admitted to the HND conversion programme set out in the attached diagrams and given credit for 180 credits at levels 1 and 2.

## **Section 6: Assessment Regulations**

The regulations are set out in the University Module Assessment Regulations.

The assessment regulations relating to placements are set out in Volume 1 of the UG Modular Scheme documentation and may be accessed via the link within the section on the programme structure.

## **Section 7: Student learning: distinctive features and support**

### 1. Professional recognition

This award is accredited by the Chartered Institute of Building (CIOB) which provides exemption for all of the written examinations of the CIOB. The CIOB is the principle institution for professionals entering the construction management profession.

### 2. Optional placement year

Students are encouraged to take the sandwich option which gives a year out in approved placement and also contributes fully to the 3 years of industry experience which is required before applying for professional membership of the CIOB.

### 3. Part-time day release route

Students may study this programme on a day release basis over 5 years. They may opt to change between the Full time and Part time routeways.

### 4. Health and Safety kitemarking

The award is separately kitemarked by the CIC as having a suitable grounding in Health and safety for graduates entering the construction industry.

### 5. Skills kitemarking

The award has been approved through the C.I.O.B. for the CIB kite mark for skills development.

### 6. Interprofessional ethos

There is an interprofessional core theme which runs through all years of the course and promotes the understanding of issues between different built environment professionals. It uses groupwork and interdisciplinary themes to encourage more productive project relationships.

### 7. Student choice

Two shared electives allow students a wide range of choice of modules in the 2nd year which are outside the core requirements and students are encouraged to do a language or other modules which are outside their own discipline

Students can also choose between two options, one focusing on technical issues and the other extending students' management knowledge and skills.

## 7. Experiential learning

There is an opportunity for part time students in relevant employment to take 40 credits of experiential learning reflecting on their learning at work.

## 8. Opportunity to study on a part-time day-release basis

Students may transfer between full and part-time modes of study.

## **Section 8: Reference points/benchmarks**

### 1. QAA Subject benchmarks statement for Building and Surveying

The learning outcomes for the BSc (Hons) Construction Management reflect the subject specific guidance found on pages 2-3 of the building and surveying benchmark statement, namely:

- i. The key concepts, theories and principles as relevant to building and surveying, including legal principles, economic theory and applied economics, design aspects, construction technology, performance of buildings, resource management, environmental awareness, health and safety management and the application of management theories
- ii. An in depth knowledge of the management of construction projects and their resource and people management.
- iii. The context in which building and surveying operates
- iv. The linkages and inter relationships between the elements of construction management and the relationships between the discipline in other related built environment disciplines. This is particularly evidenced through the application of the inter-disciplinary modules at each level of the programme
- v. Specialist knowledge in construction technology, financial and production management and human-building interaction
- vi. Understanding and knowledge of the professions and industries allied to building and surveying including, supply and design
- vii. A knowledge of the professional ethics, their impact on the operation of the professions and their influence on the society, communities and the stakeholders with whom they have contact

In addition the programme specification has demonstrated its coverage of the subject, cognitive (intellectual) and practical skills which are indicated by the benchmark. These are specifically embedded in the modules and explicit in the learning outcomes of these modules. Skills are taught and/or assessed through the shared or specific programme modules.

The learning, teaching and assessment strategies adopted in the programme are consistent with the benchmarking statement. and the programme as well as being updated regularly to include recent research, examples of best practice, including case studies and site visits and academic debate. It embeds the research interests of its lecturing staff in modules, by using team teaching as reflected in a broad spectrum of building and surveying specialisms. Also students choose dissertation topics and are individually tutored by specialist staff. Part time students in relevant employment are also taught with full time students and sandwich students to enrich discussion by reference to experience in seminars and project work.

Formative assessment is now a strong feature of all undergraduate programme modules and these together enrich the student experience. This leads to reinforcement of learning opportunities, by feedback, for both weak and strong students. Summative assessment is formally fed back by academic staff and counselling opportunities are regularly provided. These also provide the material for performance indicators which are fed back into module and programme reports.

### 2. University and Faculty Strategies for Teaching , Learning

### 3. CIOB Guidance on their requirements for accreditation

### 4. Research and Consultancy

Staff research the areas of PFI evaluation, operations management, risk and value management, partnering and supply chain management, geotechnical sciences, acoustic engineering, and concrete repair technology. A number of staff are also engaged in research into work-based and flexible learning.

The Faculty is also actively engaged in the delivery of leading edge web based materials which have been piloted for a DfEE innovations project. This has led to the development of a wide range of learning resources to complement face to face contact with staff.