

SCHOOL OF ARCHITECTURE & CONSTRUCTION

**Higher National Certificate/Higher
National Diploma in:**

**Building Surveying
Construction Management
Quantity Surveying**

STUDENT HANDBOOK

2008-2009



PREFACE

Welcome to the School of Architecture & Construction.

This *Programme Handbook* contains important information relating to your specific Programme of Studies. It is complemented by the *General Information Student Handbook* (blue cover) , which gives essential information useful to all students in the School on accessing online information, assessment, pastoral care and assistance, University regulations, etc...

Please make sure you get both handbooks.

With our best wishes for a successful programme of studies.

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Course Specifications - this will give you the detailed description of the courses which feature on the programme structure charts of this Handbook. They are in alphabetical order by course title.

Disclaimer:

The University of Greenwich reserves the right to discontinue any class or programme, to alter any programme or to amend any other information without notice.

It is the intention of the School of Architecture & Construction to keep under review the content, teaching methods and assessment of the programme and in consequence there may be changes which have overtaken the production of this Handbook, or which may occur during the year. Changes will be advised by the Programme Leaders.

You are reminded that all work produced during your programme of study may be retained by the School for reference, exhibition or quality assurance purposes.

Introduction:

Welcome to the Higher National Certificate/Higher National Diploma Building Surveying, Construction Management and Quantity Surveying programmes.

These programmes consist of a combination of core courses and optional courses which provide appropriate training in each case for technicians employed in building surveying, construction management or quantity surveying. Students are offered some element of choice in their programme to reflect the diverse nature of the construction and property industries and the many opportunities available to construction and property professionals both at the start of their career and throughout their professional life. Where appropriate, the courses also have been designed to include a significant practical element.

The programmes are also recognised nationally and internationally by employers within the construction industry and may give access to a wide range of employment options such as construction, estate management and surveying.

1. PROGRAMME DETAILS

Award	Title	Mode of Study	Programme Banner Code	UCAS code (if applicable)
HNC	Building Surveying	Part time	HNC: P12122	N/A
HND	Building Surveying	Full time	HND: P12123	HND: 032KM

Award	Title	Mode of Study	Programme Banner Code	UCAS code (if applicable)
HNC	Construction Management	Part time	HNC: P12120	N/A
HND	Construction Management	Full time	HND: P12121	HND: 022KM

Award	Title	Mode of Study	Programme Banner Code	UCAS code (if applicable)
HNC	Quantity Surveying	Part time	HNC: P12118	N/A
HND	Quantity Surveying	Full time	HND: P12119	HND: 042KM

3. PROGRAMME TEAM

Programme Leader – Peter Dalton
Director of Resources

Other members of the programme team are all the lecturers teaching on the various courses which are approved for the programme. The team will include:

Julie Adeline – Programme Leader, Quantity Surveying

Roy Clarke – Programme Leader, Building Surveying

Richard Cooper – Programme Leader, Construction Business Management and Construction Surveying Management

Bob Falconer – Course Co-ordinator, Construction Management and Practice

Ann Holder – MSc Construction Portfolio Manager

David Isaac – Team Leader for the Construction Management Team

Anthony Kelly – Programme Leader, Design & Construction Management

Yvonne Simpson – Course Co-ordinator, Quantity Surveying

4. PROGRAMME STRUCTURE:

Higher National Certificate Diagram 2008/2009:

Each HNC route will comprise 10 courses: 6 core courses 3 programme specific courses 1 elective course		Level	Building Surveying	Construction Management	Quantity Surveying
Core Courses					
Course code					
BUIL1034	Assessment & Management of Risk	2	Core	Core	Core
BUIL0057	Building Law & Contract Administration	1	Core	Core	Core
BUIL1037	Construction Technology & Environmental Design	2	Core	Core	Core
BUIL1038	Construction Technology & Materials	2	Core	Core	Core
BUIL1039	Management Principles	2	Core	Core	Core
BUIL0063	Project Evaluation & Design	1	Core	Core	Core
Programme Specific Courses					
BUIL0071	Project	2	Core	Core	Core
BUIL0069	Design Studies	2	Elec.	Elec.	Elec.
BUIL0068	Design History	2	Elec.	Elec.	Elec.
BUIL0065	Building Design & Maintenance	2	Core	Elec.	Elec.
BUIL0064	Building Conversion & Adaptation	2	Core	Elec.	Elec.
CIVI0042	Site Engineering & Surveying	1	Elec.	Core	Elec.
BUIL1036	Construction Management	2	Elec.	Core	Elec.
BUIL0061	Measurement	1	Elec.	Elec.	Core
BUIL0074	Tendering & Estimating	2	Elec.	Elec.	Core
Elective Courses					
COMP0265	Computer Aided Design	2	Elec.	Elec.	Elec.
BUIL0008	Engineering Aspects of Design	2	Elec.	Elec.	Elec.
BUIL1035	Construction Economics & Finance	1	Elec.	Elec.	Elec.
BUIL0072	Quantity Surveying Practice and Management	1	Elec.	Elec.	Elec.
BUIL0070	Innovative Construction & Design	2	Elec.	Elec.	Elec.
BUIL0056	Art & Design	1	Elec.	Elec.	Elec.

Higher National Diploma Diagram 2008/2009:

Each HND route will comprise 16 courses: 6 core courses 3 programme specific courses 7 elective courses		Level	Building Surveying	Construction Management	Quantity Surveying
Core Courses					
Course code					
BUIL1034	Assessment & Management of Risk	2	Core	Core	Core
BUIL0057	Building Law & Contract Administration	1	Core	Core	Core
BUIL1037	Construction Technology & Environmental Design	2	Core	Core	Core
BUIL1038	Construction Technology & Materials	2	Core	Core	Core
BUIL1039	Management Principles	2	Core	Core	Core
BUIL0063	Project Evaluation & Design	1	Core	Core	Core
Programme Specific Courses					
BUIL0071	Project	2	Core	Core	Core
BUIL0069	Design Studies	2	Elec.	Elec.	Elec.
BUIL0068	Design History	2	Elec.	Elec.	Elec.
BUIL0065	Building Design & Maintenance	2	Core	Elec.	Elec.
BUIL0064	Building Conversion & Adaptation	2	Core	Elec.	Elec.
CIVI0042	Site Engineering & Surveying	1	Elec.	Core	Elec.
BUIL1036	Construction Management	2	Elec.	Core	Elec.
BUIL0061	Measurement	1	Elec.	Elec.	Core
BUIL0074	Tendering & Estimating	2	Elec.	Elec.	Core
Elective Courses					
COMP0265	Computer Aided Design	2	Elec.	Elec.	Elec.
BUIL0008	Engineering Aspects of Design	2	Elec.	Elec.	Elec.
BUIL1035	Construction Economics & Finance	1	Elec.	Elec.	Elec.
BUIL0072	Quantity Surveying Practice and Management	1	Elec.	Elec.	Elec.
BUIL0070	Innovative Construction & Design	2	Elec.	Elec.	Elec.
BUIL0056	Art & Design	1	Elec.	Elec.	Elec.

5. PERMITTED LENGTH OF REGISTRATION

Title	Mode	Normal Duration (Years)	Normal Maximum Period of Duration (years) (i)
HNC Building Surveying, Construction Management, Quantity Surveying	PT	2	4
HND Building Surveying, Construction Management, Quantity Surveying	FT	2	4

6. LEARNING OUTCOMES

Learning Outcomes

Two distinct levels of outcome are defined for students who complete the programmes. General programme outcomes are such that students will:

- a) be effective in their immediate employment by developing practical application of theoretical knowledge;
- b) develop their reasoning abilities about how, why, where and when to use particular procedures, systems and techniques;
- c) develop their abilities to cope with the various constraints that might be imposed upon them in providing viable solutions to managerial, economic, and technical problems;
- d) build on their earlier studies, experience and achievements and provide for progression to further studies, where appropriate;
- e) be confident in their own intellectual abilities so that they can communicate and work effectively with the public, clients and those of associated-technician, higher-technician and chartered status;
- f) develop the personal/social abilities necessary for tasks involving both teamwork and personal initiative;
- g) develop a positive attitude to a planned career development based on a sound knowledge of the alternative routes available and a balanced view of their own abilities and opportunities for progression;
- h) develop an understanding of legislation, as applied to the Construction industry;
- i) develop an appreciation of alternative forms of construction.

Course specific outcomes:

These are contained within each of the Course Specifications.

The opportunity to combine full and part time student groups will, from experience, benefit both groups. The dual programme structure, with common courses and delivery, also offers the option to transfer between full-time and part-time modes of attendance when personal circumstances necessitate change.

7. ASSESSMENT

7.1 Assessment Schedule

Programmes are made up of courses. The specification for each course can be viewed via Banner Web or via the university portal. Each course specification has a section on assessment. Please read this carefully. This will enable you to understand how each course is assessed, how many pieces of coursework you will submit or if there are any examinations for the course.

A detailed schedule of assessment with hand-in dates for coursework, dates for presentation, dates for submission of portfolios, dates for 'crits' as appropriate, should be given by the course co-ordinator at the start of each course.

7.2 General Assessment Regulations

Unless otherwise stated below, your programme will be assessed in accordance with the University's **Academic Regulations** (Academic Regulations for Taught Awards; Academic Regulations for Research Awards) which are available on the website of The Office of Student Affairs/Information and Publication.

7.2.1 Awards

To obtain a named award students must successfully complete designated core courses and sufficient appropriate optional courses as required in the approved programme structure.

The standard of each award may be defined in terms of the number and level of credits a student is required to obtain.

Higher National Certificate

The Higher National Certificate is awarded to a student who successfully completes, or is otherwise credited with, at least 150 credits, of which at least 30 must be at level 2 or above and at least 60 at level 1 or above. A HNC may be awarded with commendation.

Higher National Diploma

The Higher National Diploma is awarded to a student who successfully completes, or is otherwise credited with, at least 240 credits of which at least 90 must be at level 2 or above and at least 90 at level 1 or above. A HND may be awarded with a commendation.

7.3 Specific Regulations for the Programme(s) contained in this handbook

For each course:

(a) where there is assessment by both written examination and by continuous assessment:

(i) a student needs to achieve a pass mark of 40% in both elements

(ii) the examination will normally account for 50% of the total assessment for the course

(b) where there is continuous assessment only:

(i) a student needs to achieve an average aggregate pass mark of 40%.

Where continuous assessment work comprise 50% of the assessment (i.e. where there is also a written examination), group work will normally account for no more than 20% of the course assessment.

Where continuous assessment work comprises 100% of the assessment (i.e. where there is no written examination), group work will normally account for no more than 40% of the course assessment.

8. WHAT NEXT? CAREER/JOBS/FURTHER STUDIES

Whilst the Higher National Diploma and Certificate are qualifications recognised by employers in their own right, the structure of the programmes has been developed to facilitate the transfer of those students wishing to proceed to degree level studies. The structure also allows students to join the HND from the HNC or vice versa, subject to the normal University regulations.

9. COURSE SPECIFICATIONS AND READING LISTS AND WHERE TO FIND THEM

Course specifications/definitions:

For each course, we specify the number of credits, the aims of the course, its academic level, its learning outcomes, its indicative content and how it will be assessed (for instance: how many pieces of coursework, portfolio or exams). It is important that you become familiar with the definition for each course on your programme (see list below).

Each course specification (or definition) can be viewed on the University Banner Web via the university portal. You will need your user ID and PIN number. These will have been given to you at registration. To view the course specification for any approved course in the University: go through the student portal, click on “My Learning”; look at the Student Record (Banner) window; go to Authorised Course List via Course Information then search for the required Course Code for the current academic session, then click on the Course Code.

Reading lists:

You can access your tutor’s reading list, or the reading list relating to a particular course, via the university portal; then click on ‘Search the library catalogue’; then click on ‘View items on your reading list’. You may also be given reading lists with your course hand-outs.

HNC/HND Building Surveying
HNC/HND Construction Management
HNC/HND Quantity Surveying
List of courses (alphabetical order by course title):

Core Courses

Assessment & Management of Risk	BUIL1034
Building Law & Contract Administration	BUIL0057
Construction Technology & Environmental Design	BUIL1037
Construction Technology & Materials	BUIL1038
Management Principles	BUIL1039
Project Evaluation & Design	BUIL0063

Programme Specific Courses

Building Surveying

Project	BUIL0071
Building Design & Maintenance Studies	BUIL0065
Building Conversion & Adaptation	BUIL0064

Construction Management

Project	BUIL0071
Site Engineering & Surveying	CIVI0042
Construction Management	BUIL1036

Quantity Surveying

Project	BUIL0071
Measurement	BUIL0061
Tendering and Estimating	BUIL0074

Elective Courses

Art and Design	BUIL0056
Computer Aided Design	COMP0265
Construction Economics & Finance	BUIL1035
Construction Technology & Design 3	BUIL1039
Design History	BUIL0068
Design Studies	BUIL0069
Engineering Aspects of Design	BUIL0008
Innovative Construction & Design	BUIL0070
Quantity Surveying Practice & Management	BUIL0072

COURSE DEFINITION

Course Code:	BUIL 0056	School:	Architecture and Construction
Course Title:	ART & DESIGN		
Level:	1	Credit:	15
Department:	Construction Management		
Course Co-ordinator:		Pre-requisites:	None

Introduction and Rationale:

Architects/designers need to be able to evolve and develop design proposals, and to communicate their ideas through suitable forms of representation. Students of these disciplines are therefore to be encouraged, through practical application, to develop skills and techniques in a variety of media to enable them to conceptualise and communicate.

Aims:

This course aims to: To increase visual awareness. To develop an understanding of the nature of visual thinking and its appropriate language. Through application to develop design concepts. To be able to express ideas through the visual arts.

Learning Outcomes:

At the end of the course the student will be able to:

- (a) Initiate and develop design ideas.
- (b) Produce designs demonstrating general observational skills.
- (c) Communicate ideas in two or three dimensional form through various appropriate media.

Indicative Content:

Practical exercises related to the study of line, shape, form, scale, volume, proportions, composition, colour, tone, pattern and texture, in various media forms. Subject areas such as still life drawing, perspective drawings, composition from imagination and three dimensional studies, including model making and application to the built environment.

Main Learning and Teaching Activities:

This course will be taught through studio work.

Assessment Details:

Methods of Assessment	LAST item of assessment	Grading Mode	Weighting %	Minimum Pass Mark	Words Length	Outline Details
Portfolio	✓	Numerical %	100	40%	3,000	Varied portfolio of work will be assessed

COURSE DEFINITION

Course Code:	BUIL 1034	School:	Architecture and Construction
Course Title:	ASSESSMENT AND MANAGEMENT OF RISK		
Level:	2	Credit:	15
Team:	Construction Management		
Course Co-ordinator:		Pre-requisites:	None

Introduction and Rationale:

This course is intended to provide students with an introduction to the identification of the risks inherent in the design, construction and use of buildings from the initial project stages through to completion and occupation. The course also examines strategies to assess and manage these risks.

Aims:

The course aims to:

- a) develop an understanding of risk and the techniques available for its analysis and management;
- b) introduce students to the legislation relating to Health & Safety;
- c) discuss the roles and responsibilities of the various parties in managing health and safety risks;
- d) develop skills analysis and decision making.

Learning Outcomes:

At the end of the course, the student will be able to:

- a) demonstrate an understanding of the risks involved in the design and construction of buildings;
- b) identify and understand the range of legislation applicable to health and safety in construction;
- c) demonstrate an understanding of the responsibilities of the clients, designers and contractors for health and safety;
- d) design and implement appropriate risk management procedures.

Indicative Content:

Forecasting, risk and uncertainty. Risk attitude. Risk exposure. Analysis and assessment of risks in construction and building use. UK and EU Health & Safety legislation. Health and safety documentation. Roles and responsibilities of the planning supervisor, client, designers and contractors. Development of safety policies. Techniques for the control and management risk and hazards from project inception to completion and occupation. Case study analysis of risks involved in working at height, groundwork, working in confined spaces, moving loads, mobile plant, electrical hazards, use of hazardous materials. Use of protective equipment.

Learning and Teaching Activities:

The course will be taught by a combination of lectures, seminars and studio based projects.

Assessment Details:

Methods of Assessment	LAST item of assessment	Grading Mode	Weighting %	Minimum Pass Mark	Words Length	Outline Details
Portfolio	✓	Numerical %	100	40%	3,000	Varied portfolio of work

Indicative Texts:

ISBN Number	Author	Date	Title	Publisher
10075068111x	Philip Hughes MBE Ed Ferrett	2007	Introduction to Health and Safety in Construction 2 nd edition	Butterworth Heinemann
0419234500	Curwell, S & March, C	2001	Hazardous Building Materials	Spon
0717621391	Health & Safety Executive	2002	Managing Health & Safety in Construction	HSE
1852639679	CIP	1999	Risk assessment in construction – A Guide	CIP
0860178048	CIRIA	2002	A Simple Guide to Controlling Risk	CIRIA
905809328x	Coble R	2000	The Management of Construction Safety & Health	Balkema

COURSE DEFINITION

Course Code:	BUIL 0064	School:	Architecture and Construction
Course Title:	BUILDING CONVERSION AND ADAPTATION		
Level:	2	Credit:	15
Team:	Construction Management		
Course Co-ordinator:		Pre-requisites:	None

Introduction and Rationale:

Whatever the economic background to the construction/property market, there is always scope for converting and adapting existing buildings rather than constructing new. The processes and principles involved in successfully converting and adapting buildings, requires skills from a broad range of subjects relevant to building studies. This course will therefore pull these various disparate strands together and offer the student a broad overview.

Aims:

The course aims to:

- a) to distinguish between converting, adapting and extending buildings;
- b) to discuss why buildings are converted, adapted and extended, as an alternative to new buildings;
- c) to explore design aspects such as principles of circulation, structural constraints, fire safety and sound and thermal issues.

Learning Outcomes:

At the end of the course the student will:

- a) understand the reasons why buildings are converted, adapted or extended;
- b) appreciate the planning, practical and economic constraints with the conversion process;
- c) be aware of good design principles, such as the sensible use of available space;
- d) undertake practical tasks such as designing and specifying various conversion and/or adaptation projects.

Indicative Content:

Introduction to the concepts of conversion and adaptation. Considerations of useful life and change of use. Constraints and practical considerations such as the existing structure, available space, thermal requirements, sound insulation, fire issues, services and cost. Process and procedure from initial inspection and recordings, through to developing proposals, including specifications and obtaining of necessary approvals, to completion of work on site.

Main Learning and Teaching Activities:

The course will consist of a series of lectures, seminars and case studies.

Assessment Details:

Methods of Assessment	LAST item of assessment	Grading Mode	Weighting %	Minimum Pass Mark	Words Length	Outline Details
Portfolio	✓	Numerical %	100	40%	3,000	Varied portfolio of work

Keytexts:

ISBN Number	Author	Date	Title	Publisher
0070471622	Newman, A	2000	Structural Renovation of Buildings: Methods, Details & Design Examples	McGraw Hill Professional
0419 13400	Highfield, D	1987	Rehabilitation and Re-use of Old Buildings	E & FN Spon
1873394365	Latham, D	2000	Creative Re-use of Buildings	Donhead
0419236309	Stratton, M	2000	Industrial Buildings: Conservation & Regeneration	Taylor & Francis
0419235701	Kincaid, D	2002	Adapting Buildings for Changing Uses: Guidelines For Change & Use & Refurbishment	Taylor & Francis
0 582 22818 2	Pickard, R D	1996	Conservation in the Built Environment	Addison, Wesley, Longman

COURSE DEFINITION

Course Code:	BUIL 0065	School:	Architecture and Construction
Course Title:	BUILDING DESIGN & MAINTENANCE STUDIES		
Level:	1	Credit:	15
Team:	Construction Management		
Course Co-ordinator:		Pre-requisites:	None

Introduction and Rationale:

A major part of a building professional's work is to inspect property in order to determine its condition and analyse defects. A significant factor in this analysis is to understand the reasons why the defect has arisen and this can range from poor initial design through to natural deterioration.

From this basic analysis two further factors flow. Firstly, what work needs to be put in hand to remedy the defect and secondly the important issue of potentially avoiding the defect in the first instance through good detailing and regular maintenance.

The course will provide the student with a broad introduction to the above issues and establish a link between design and maintenance. Specific defects will be identified, their cause analysed and remedies discussed. In undertaking this, emphasis will be placed on the actual method of analysis.

Aims:

The course aims to:

- a) to examine the cause of deterioration in buildings;
- b) to expose the importance of good architectural detailing;
- c) to introduce good principles of defect analysis;
- d) to discuss remedial works including the important aspect of cost and cost effectiveness;
- e) to detail specific remedial work and identify ongoing maintenance requirements.

Learning Outcomes:

At the end of the course the student will:

- a) appreciate the importance of good detailing and continuing maintenance;
- b) apply analytical methods to observe defects and compile a report on findings and recommendations;
- c) understand that some defects have a number of differing causes and remedies and that these must be identified before they can be properly resolved;
- d) identify solutions to defects including preparing a specification for remedial works.

Indicative Content:

The course will introduce the concept of building defects and define what constitutes a defect. Causes of failure such as natural deterioration and human factors such as poor design and detailing of the building and vandalism.

Methods of observing, analysing and resolving defects, using practical examples. Preparation of both reports on the defect and a specification for remedial work. Important economic constraints, both in terms of the cost of the work and the ongoing maintenance liability.

On going maintenance liability including an assessment of planned maintenance programmes and emergency maintenance.

Main Learning and Teaching Activities:

This course will be taught by a combination of lectures, seminars and studio based projects.

Assessment Details:

Methods of Assessment	LAST item of assessment	Grading Mode	Weighting %	Minimum Pass Mark	Words Length	Outline Details
Portfolio	✓	Numerical %	100	40%	3,000	Varied portfolio of work

Keytexts:

ISBN Number	Author	Date	Title	Publisher
0419248900	Garrard C	2001	Guide to Defect Avoidance	Spon
0117024368	Billington M	2001	Defects in Buildings 3 rd Ed	TSO
041925210X	Richardson B	2000	Defects & Deterioration in Buildings (2 nd Ed)	Spon
0632053623	Lee, R	2000	Building Maintenance Management 4 th Ed	Blackwell Science
0750621583	Richardson, B	1995	Remedial Treatment of Buildings 2 nd Ed	Butterworth Heinemann
0750631139	Rich, P & Dean, Y	1999	Principles of Element Design (3 rd Ed)	AP

COURSE DEFINITION

Course Code:	BUIL 0057	School: Architecture and Construction
Course Title:	BUILDING LAW & CONTRACT ADMINISTRATION	
Level:	1	Credit: 15
Team:	Construction Management	
Course Co-ordinator:		Pre-requisites: None

Introduction and Rationale:

This course is intended to provide students with an introduction to British Law as it applies to the Construction Industry. It is further intended that students will develop competences in aspects of Contractual Administration in respect of the most common types of contract used in the industry for building works of various sizes.

Aims:

The course aims to:

- a) to develop an understanding of the nature, principles and procedures of law and legislation as applied to the construction industry, by analysis of the most common standard forms of building contract;
- b) to examine the legal duties and responsibilities of the parties involved in the design and construction processes;
- c) to develop the students ability to apply the principles and procedures to real or simulated problems.

Learning Outcomes:

At the end of the course the student will:

- a) demonstrate an understanding of the nature and types of building/construction contract;
- b) demonstrate an understanding of the nature, principles and procedures of law and legislation as applied to the construction industry;
- c) demonstrate an understanding of the liabilities and responsibilities of the contractual parties and their agents;
- d) apply the principles and procedures to real or simulated problems.

Indicative Content:

Law

Introduction to and overview of the following:

- Law of Tort and its effects on building operations;
- Law relating to Health, Safety and Welfare;
- Law of Contract including legal aspects of construction contracts;
- Law of Property & Land in relation to construction works.
- Principles of arbitration, ADR, adjudication and litigation in relation to the Contract Industry

Contract Administration

Project procurement options: traditional, design and build, management, etc; RIBA plan of Work; Standard forms of contract; Contractual duties: certificates and instructions, practical completion; Cost forecasting methods, cost control during design stages.

Main Learning and Teaching Activities:

This course will be taught by a combination of lectures, seminars and studio based projects.

Assessment Details:

Methods of Assessment	LAST item of assessment	Grading Mode	Weighting %	Minimum Pass Mark	Words Length	Outline Details
Portfolio	✓	Numerical %	100	40%	3,000	Varied portfolio of work

Keytexts:

ISBN Number	Author	Date	Title	Publisher
			Law Journals	
0273634372	JM Male	1998	Landlord and Tenant	Prentice Hall
0406063265	Hepple, O,Sullivan & Matthews	2000	Hepple, Howarth and Mathews: Tort Cases & Materials	Butterworths
0421904200	John Uff	2005	Construction Law Ninth Edition	Sweet & Maxwell
0415413850	D Chappell	2007	Understanding JCT Standard Building Contracts	Taylor and Francis
0419253106	Murdock & Hughes	2000	Construction Contracts: Law and Management	Spon Press
0632057416	Stephenson D	2001	Arbitration Practice in Construction Contracts	Blackwell Science LTD
0582287081	S Owen	1998	Law for the Construction industry	Longman

COURSE DEFINITION

Course Code:	COMP0265	School:	Architecture and Construction
Course Title:	COMPUTER AIDED DESIGN		
Level:	2	Credit:	15
Team:	Construction Management		
Course Co-ordinator:		Pre-requisites:	None

Introduction and Rationale:

The construction industry has always had a significant reliance on graphic information which is increasingly being generated, manipulated, stored and managed on microcomputer. On going developments in information technology are having continual and changing impacts on the processes used for these tasks. Increasingly, graduates will be ill equipped to work efficiently in the construction industry without CADD (computer aided design and draughting) and some knowledge of what it can mean to their profession. This unit looks at how CADD can be used to solve construction problems at conception and design stages.

Aims:

To seek to build confidence in using CADD by allowing the student to explore the possibilities for a pair of projects using AutoCad (AEC). It also helps to develop an awareness of the potential that CADD can have on the production of construction drawings and to give experience in their production.

Learning Outcomes:

As a result of studying this unit the student will:

- (a) have a better understanding of the use of computer aided draughting tools and develop methods for producing construction drawings on CADD
- (b) be able to develop a strategy for tackling unfamiliar software efficiently;
- (c) be able to appreciate the impact of applying CADD to the construction industry.

Indicative Content:

The move towards the computerisation of the design process in the construction industry. The extent to which certain professions in the industry will become more efficient/redundant with the use of microcomputers. Introduction to and the use of CADD on microcomputers single and multi-user. The use of computer generated drawings in Construction. Computer data manipulation and handling.

Main Learning and Teaching Activities:

The student will learn from a series of informal lectures but mainly from the execution of two laboratory based projects. It is while undertaking these projects under supervision from staff and software demonstrators that the student will achieve the set learning outcomes.

Assessment Details:

Methods of Assessment	LAST item of assessment	Grading Mode	Weighting %	Minimum Pass Mark	Words Length	Outline Details
Portfolio	✓	Numerical %	100	40%	3,000	Varied portfolio of work

COURSE DEFINITION

Course Code:	BUIL 1035	School:	Architecture and Construction
Course Title:	CONSTRUCTION ECONOMICS AND FINANCE		
Level:	1	Credit:	15
Team:	Construction Management		
Course Co-ordinator:		Pre-requisites:	None

Introduction and Rationale:

This course provides an understanding of the effect of economic factors on business decisions in the field of construction. It analyses a number of inter-related topics such as the impact of macro economic management on the construction sector.

Aims:

The course aims:

- (a) To introduce students to the key issues in construction economics and their importance.
- (b) To extend the students understanding of the development process.
- (c) To develop students understanding of the various techniques of financial appraisal of projects.
- (d) To develop students understanding of the effect of Government policy on the construction industry.
- (e) To extend students understanding of the economic effects of Town and Country Planning legislation.

Learning Outcomes:

At the end of the course the student will:

- (a) Identify the economic forces which influence construction activity.
- (b) Understand the economic aspects of any development process.
- (c) Understand the methods of financial appraisal of projects.
- (d) Understand the significance of Town and Country Planning in economic development.
- (e) Understand the impact of Government policy on the construction industry.

Indicative Content:

An analysis of the construction sector in the UK. Management of the UK economy and the implications for the construction industry. Supply and demand analysis of the construction industry. Construction markets and the economics of supply. Price determination for construction projection. Investment decisions. Economics of property development. Finance for development. Forecasting prices and costs. Transport economics. The role of Town and Country planning in economic development.

Main Learning and Teaching Activities:

This course will be taught by a combination of lectures, seminars and studio based projects.

Assessment Details:

Methods of Assessment	LAST item of assessment	Grading Mode	Weighting %	Minimum Pass Mark	Words Length	Outline Details
Portfolio	✓	Numerical %	100	40%	3,000	Varied portfolio of work

COURSE DEFINITION

Course Code:	BUIL 1036	School:	Architecture and Construction
Course Title:	CONSTRUCTION MANAGEMENT		
Level:	2	Credit:	15
Team:	Construction Management		
Course Co-ordinator:		Pre-requisites:	None

Introduction and Rationale:

This course will provide an education in the application of management principles and techniques at site level. The course will provide students with a thorough grounding in management requirements on construction sites and will allow an appreciation of the management/technology/productivity interface.

Aims:

The course aims to:

- a) assist in developing an appreciation of the core requirements of site management;
- b) illustrate the changing nature of site management and the future directions;
- c) develop in the student an appreciation of elements such as quality, environmental considerations, Health and Safety and image;
- d) demonstrate expertise in the planning and programming of building projects and in the design of systems for production control and co-ordination.

Learning Outcomes:

At the end of the course, the student will:

- a) demonstrate an understanding of the principles of effective site management;
- b) apply management principles and techniques to practical situations;
- c) appreciate the critical nature of such elements as communications, the use of IT and the essentials of planning resource management.

Content:

The *role* of the *site manager* in relation to leadership, decision-making and motivation.

Investigation of the *site organisation structures* will include traditional and management forms of building procurement leading to *physical production systems* on site, such as site layout, plant selection, on and off-site production, temporary works and communications on site.

An introduction to *materials management* will focus on the procurement process, storage, control and waste. The *production planning* element of site management will focus on types of planning and programming in current use, production strategy, method study and incentive schemes. Analysis of *the management and co-ordination of sub-contractors* will also be made.

Financial aspects of site management will include budgetary and cost control.

Resource management: project programming and planning techniques; Design team roles and responsibilities (pre and post contract); Project communications; design team meetings, design development meetings, client approval, design documentation.

Learning and Teaching Activities:

The course will be taught by a combination of lectures, studio work and site visits. Studio work will concentrate on case studies.

Assessment Details:

Methods of Assessment	LAST item of assessment	Grading Mode	Weighting %	Minimum Pass Mark	Words Length	Outline Details
Portfolio	✓	Numerical %	100	40%	3,000	Varied portfolio of work

Indicative Texts:

ISBN Number	Author	Date	Title	Publisher
0130846783	Schaufelberger J, Holm L	2001	Management of Construction Projects	Prentice Hall
1405111100	Newed	1997	The Practice of Construction Management	Blackwell Science
0632038624	Oxley R & Poskitt J	1996	Management Techniques Applied to the Construction Industry	Blackwell Scieene
14505121483	Brian Coore and Peter Williams	2004	Construction Planning Programming and Control	Blackwell Science
14505133252	Harris, Frank Mc Caffer and Ronald	2006	Modern Construction Management 6 th edition	Blackwell Science
0333968786	Griffith, Alan, Watson and Paul	2003	Construction Management	Palgrave Macmillian

COURSE DEFINITION

Course Code:	BUIL 1037	School:	Architecture and Construction
Course Title:	CONSTRUCTION TECHNOLOGY & ENVIRONMENTAL DESIGN		
Level:	2	Credit:	15
Team:	Construction Management		
Course Co-ordinator:		Pre-requisites:	None

Introduction and Rationale:

This course will examine the external envelope, internal components and finishes and services required for low-rise industrial/commercial buildings (long and short span) and multi-storey residential/commercial buildings (up to ten storeys), together with an introduction to external works.

Aims:

The course aims to:

- a) appreciate the requirements of the external envelope, its design and specification;
- b) describe the range of internal finishes, fixtures and fittings to be considered for industrial, commercial and multi-storey residential buildings;
- c) further develop the concept of industrialisation and component design regarding internal elements of the building;
- d) develop the reasoning ability of the student in the appraisal and selection of components and finishes for a given situation and location;
- e) examine ways in which the internal space may be utilised to give flexibility of layout and suitable accommodation for the building services;
- f) provide the student with an understanding of both quality control and the legislative requirements pertaining to the internal aspects of buildings;
- g) describe the range of finishes available for external works and their construction, including roads and drainage, together with necessary landscape work.
- h) Introduction to Sustainable and Green Design. Aspects and criteria for Sustainable and Environmentally Friendly Design

Learning Outcomes:

At the end of the course, the student will be able to:

- a) demonstrate an understanding of the process of selection and specification of internal finishes, fixtures and fittings, from a range of traditional alternatives, purpose made components and mass produced items for a particular application;
- b) provide internal space planning to meet a set of given criteria;
- c) incorporate the legislative requirements into the internal design of the above building types;
- d) select and specify hard landscaping work including associated drainage.

Indicative Content:

Options for the external envelope and their specification. Range of finishes for floors, walls and ceilings, including suspended ceilings, raised floors, and demountable partitions. Options for stairs, lifts and escalators. Space planning including circulation and acoustic requirements. Fire prevention and integration of services. Introduction to advanced services, heating, ventilation and electrical. Industrialisation methods. Quality control and specification writing. External works including roads, footpaths, car parking drainage, earthworks, retaining walls, hard and soft landscape. Refuse disposal.

Throughout the course reference will be made to the legislative requirements and case studies.

Main Learning and Teaching Activities:

This course will be taught by a combination of lectures, seminars and studio based projects.

Assessment Details:

Methods of Assessment	LAST item of assessment	Grading Mode	Weighting %	Minimum Pass Mark	Words Length	Outline Details
Portfolio	✓	Numerical %	100	40%	3,000	Varied portfolio of work

Keytexts:

ISBN Number	Author	Date	Title	Publisher
0-582-21865-9	Barritt C M H	1994	Advanced Building Construction Vols 1 & 2	Longman Scientific and Technical
0-7134-5675-2	Dean, Y	1996	Finishes (4 th Ed)	Longman Scientific and Technical
0-750609133	Stacey, M	2000	Component Design	Digital Press
1-4051-2422-9	J. Yang, Peter S. Brandon and A.C. Sidwell	2005	Smart and Sustainable Built Environment	Blackwell Publishing
0-582-41396-6	Chudley R	1987	Construction Technology Level 4	Longman Scientific and Technical

COURSE DEFINITION

Course Code:	BUIL 1038	School:	Architecture and Construction
Course Title:	CONSTRUCTION TECHNOLOGY & MATERIALS		
Level:	2	Credit:	15
Team:	Construction Management		
Course Co-ordinator:		Pre-requisites:	None

Introduction and Rationale:

This course will examine the principles and practices related to ground works, superstructure and the external envelope of low-rise industrial/commercial buildings (long and short span) and multi-storey residential/commercial buildings (up to ten storeys).

Aims:

The course aims to:

- a) develop an understanding of the principles of construction technology;
- b) develop an appreciation of alternative forms of construction for low-rise industrial/commercial buildings and multi-storey residential/commercial buildings;
- c) introduce the concept of industrialisation regarding the elements of the superstructure;
- d) develop the reasoning ability of the student in the appraisal and selection of materials and techniques used in the construction process for ground works and superstructure for the above building types;
- e) provide the student with an understanding of the legislative requirements pertaining to construction activities, and in particular those concerned with safety.

Learning Outcomes:

At the end of the course, the student will be able to:

- a) appreciate the requirements for the structural integrity of buildings;
- b) demonstrate an understanding of the process of selection and specification of materials and forms of construction for the ground works and superstructure for particular applications;
- c) incorporate the legislative requirements into the design and construction process of the above building types.

Indicative Content:

Site and soils investigation, ground improvement techniques, shallow and deep excavations, design and construction of basements foundations and retaining walls. Principles of construction and the requirements of the structure. Various forms of construction in steel, concrete and timber, including structural floors. Properties of materials, composite materials, current use, future potential and techniques. Other factors related to the construction process such as industrialisation and bespoke design.

Throughout the course reference will be made to the relevant legislative requirements and case studies.

Main Learning and Teaching Activities:

This course will be taught by a combination of lectures, seminars and studio based projects.

Assessment Details:

Methods of Assessment	Please identify the LAST item of assessment that a student sits with a tick	Grading Mode	Weighting %	Minimum Pass Mark	Words Length	Outline Details
Portfolio	✓	Numerical %	100	40%	3,000	Varied portfolio of work

Keytexts:

ISBN Number	Author	Date	Title	Publisher
0-582-404479	Foster, J	2000	<i>Structure & Fabric (Part 1) (6th Ed)</i>	Longman Scientific and Technical
0-582405203	Foster, J & Harrington R	2000	Structure & Fabric (Part 2) (6 th Ed)	Longman
	Illingworth, J	2000	Construction Methods & Planning (2 nd Ed)	Spon
0-582-21255-3	McEvoy M	1994	External Components (4 th Ed)	Longman Scientific and Technical
0-582-21865-9	Barritt C M H	1994	Advanced Building Construction Vols 1 & 2	Longman Scientific and Technical
0-7277-0142-8	Robb A D	1982	Site Investigation	ICE Works Construction Guides
0-632037423	Barry, R	1993	The Construction of Buildings Vol 3	Blackwell
0-63205543X	Barry, R	2000	The Construction of Buildings Vol 4	Blackwell
0-58221923X	Everet A	1994	Materials	Mitchells
0-582212596	Dean, Y	1996	Materials Technology	Mitchells

COURSE DEFINITION

Course Code:	BUIL 0068	School:	Architecture and Construction
Course Title:	DESIGN HISTORY		
Level:	2	Credit:	15
Team:	Construction Management		
Course Co-ordinator:		Pre-requisites:	None

Introduction and Rationale:

There are a number of reasons why we study history, and on this course specifically the history of building design. Firstly, we are surrounded by a wealth of historical buildings of various ages and styles, which together form our heritage and provide a framework within which we make judgements regarding alterations and additions to the existing building stock. Secondly, throughout history buildings have been influenced in their design and construction by a variety of factors such as available construction techniques, developments in materials, economics, design theory, social structure and religion.

A study through history:

- a) Enables us to understand a building of a particular period and style.
- b) Shows how developments through history contribute towards present day design.
- c) Help us to address changes in the future from the lessons of the past.

Aims:

The course aims:

- a) To understand why we study the history of building design.
- b) To provide a general understanding of important developments in the design and construction of buildings throughout history.
- c) To appreciate the inter-relationship of the various factors that have influenced developments in the design and construction of buildings.
- d) To recognise how these changes have contributed to present day design in the form of progression and incorporation into culture.
- e) To appreciate that the design and construction of buildings continues to change and develop.

Learning Outcomes:

At the end of the course, the student will:

- a) Understand the important developments in the design and construction of buildings through history, and the way in which they have contributed to present day design.
- b) Appreciate the inter-relationship of various factors which influence the design and construction of buildings.
- c) Be able to identify buildings of a particular period and style and understand the possible design constraints for any alteration work.

Indicative Content:

The course will cover a study of the main historical developments which contribute towards the current building stock, from classical architecture and the later renaissance, through to the industrial revolution, the modern movement and current issues. At each period various factors will be considered including construction techniques, developments in materials, economics, design theory, social structure, religion and philosophy.

Main Learning and Teaching Activities:

The course will be taught by a combination of lectures, seminars and studio based projects.

Assessment Details:

Methods of Assessment	LAST item of assessment	Grading Mode	Weighting %	Minimum Pass Mark	Words Length	Outline Details
Portfolio	✓	Numerical %	100	40%	3,000	Varied portfolio of work

COURSE DEFINITION

Course Code:	BUIL 0069	School:	Architecture and Construction
Course Title:	DESIGN STUDIES	Credit:	15
Level:	2	Pre-requisites:	None
Team:	Construction Management		
Course Co-ordinator:			

Introduction and Rationale:

Buildings have a major influence on the quality of our lives. They affect us not only as occupants, but also in the contribution they make towards the built environment. Buildings are the product of design and in order to achieve a quality environment, designers must gain an understanding of various principles of design theory. These include such concepts as form, geometry and architectural language. The analysis of these theories will enable their use as design tools and assist in the development of design ideas.

Aims:

The course aims to:

- a) provide an understanding of spatial, visual and symbolic criteria in design;
- b) enable the student to use the above design principles as design tools;
- c) enable the student to learn to generate design ideas and develop forms of design communications;
- d) increase visual awareness and to develop a personal frame work of critical thought.

Learning Outcomes:

At the end of the course, the student will be able to:

- a) initiate and develop design ideas in the context of internal and external aspects of buildings and elementary urban studies;
- b) initiate and develop design ideas in the context of internal and external aspects of buildings and elementary urban studies;
- c) demonstrate the ability to analyse and formulate rational opinions and views.

Indicative Content:

To investigate such issues as form space, scale, proportions, rhythm, pattern, materials, texture, colour and light. To study the development of building types, symbolism, imagery and architectural language.

Analysis through design theory, styles and trends and by the study of case studies of selected buildings which played a part in the forming of various ideas.

Main Learning and Teaching Activities:

The course will be taught by a combination of lectures, seminars and studio based projects.

Assessment Details:

Methods of Assessment	LAST item of assessment	Grading Mode	Weighting %	Minimum Pass Mark	Words Length	Outline Details
Portfolio	✓	Numerical %	100	40%	3,000	Varied portfolio of work

Keytexts:

ISBN Number	Author	Date	Title	Publisher
0419159401	Von Meiss, P	1998	Elements of Architecture	Spon
0419161309 15639	Baker, G David Adler	1996 1999	Design Strategies in Architecture Metric Handbook – Planning and design	Spon Heinemann & Butterworth
35551	Editors of Phaidon Press	2004	The Phaidon Atlas of Contemporary World Architecture	Phaidon Press Ltd
38783	Charles Jancks	2005	Iconic Building – The Power of Enigma	Frances Lincoln

COURSE DEFINITION

Course Code:	BUIL 0008	School:	Architecture and Construction
Course Title:	ENGINEERING ASPECTS OF DESIGN		
Level:	2	Credit:	15
Team:	Construction Management		
Course Co-ordinator:		Pre-requisites:	None

Introduction and Rationale:

At level I students receive a general introduction to the construction industry and develop their computing and communication skills. In order to be able to advise on and discuss technical issues and to be able to undertake the level III courses of the programme, students must have a thorough grasp of the fundamentals. This course covers the basic technical principals required for this purpose.

Aims:

The course aims to equip the student with a knowledge of the fundamental concepts of theory of structures, fluids, design of services and structural design. The relationships of these subject areas to each other and to other courses of the programme will be emphasised.

Learning Outcomes:

At the end of the course the student will be able to:

- (a) identify structural components and evaluate forces in statically determinate trusses;
- (b) draw shear force, bending moment diagrams for statically determinate beams;
- (c) understand the concept of permissible stress and limit state and be able to design simple structural elements in timber, steel, reinforced concrete and masonry to the relevant British Standard;
- (d) understand the physical properties of fluids and calculate forces due to static fluids such as water and wet concrete;
- (e) understand fluid motion and flow resistance in pipes and ducts;
- (f) understand qualitatively the principles of boundary layers, flow separation and drag forces on bodies, flow patterns round structures and wind loading;
- (g) understand the principles of noise measurement and room acoustics and make decisions as to the most appropriate method of obtaining a satisfactory acoustic environment;
- (h) make decisions as to the most appropriate heating method for a particular property and carry out heat flow calculations for sizing of heating emitters;
- (i) understand the nature of electricity, the principles of power generation and distribution and the performance of electrical machines, including potential problems in use;
- (j) understand the principles involved in providing a satisfactory lighting level. Carry out calculations to determine daylight factors from drawing or from existing buildings.

Indicative Content:

Theory of Structures Real and idealised structures - components, joints, supports. Elements of statics - resultant force, conditions of equilibrium. Determinate structures - forces in trusses, shear force and bending moment diagrams. Concepts of stress and strain - section properties, simple theory of bending. Design of Structures Importance of initial design and examination of options in accordance with planning and building regulations. Quantification of loadings. Site investigation. Permissible stress and limit state philosophy. Introduction to design standards including Eurocodes. Design of simple structural elements in timber, masonry, steel and reinforced concrete. The interaction of structural elements, joint design, provision for movement, simple foundation design, basement design. Fluids Physical properties of fluids. Forces due to static fluids such as water and wet concrete on plane surfaces. Fluid motion and flow resistance in pipes and ducts including intermittent flow. Qualitative description of boundary layers, flow separation and drag forces on bodies, flow patterns round structures. Introduction to Code of Practice for wind loading. Environmental Engineering Principles of sound and noise measurement. Room acoustics and reverberation time. Heat transfer. Nature of electricity, principles of power generation and distribution, basic units and measurements, electronics, circuits, performance of electrical machines. Principles of lighting measurement, daylight factors.

Main Learning and Teaching Activities:

The course comprises 75% lectures and 25% studio. Studio sessions will include: - project orientated work - tutorials; and - case studies

Assessment Details:

Methods of Assessment	LAST item of assessment	Grading Mode	Weighting %	Minimum Pass Mark	Words Length	Outline Details
Portfolio	✓	Numerical %	100	40%	3,000	Varied portfolio of work

COURSE DEFINITION

Course Code:	BUIL 0070	School:	Architecture and Construction
Course Title:	INNOVATIVE CONSTRUCTION AND DESIGN		
Level:	2	Credit:	15
Team:	Construction Management		
Course Co-ordinator:		Pre-requisites:	None

Introduction and Rationale:

Many buildings display unique and farsighted concepts reflecting general changes in society and client requirements, such as changing work patterns and energy concerns and/or specific developments within the construction industry, for example new materials or structural concepts. In some cases the innovations are manufacturer led, whilst others develop to meet the specific requirements of the Architects/designers on a particular project. Invariably innovative design requires close co-operation between designers, manufacturers and construction processors. It is important that construction professionals and in particular designers, are aware of the factors influencing innovative design, stay abreast of the latest developments within an international perspective and understand important design considerations for each application.

Aims:

The course aims: To further generate an awareness of current issues and developments in the design and construction of buildings through case studies. To appreciate the interaction between various parties in the development of new materials and technologies. To develop skills in solving technological design issues. To improve presentation techniques in written, graphic and oral forms of communications.

Learning Outcomes:

At the end of the course, the student will:

- (a) Be aware of present day social and technological influences on the design and construction of buildings, and ways in which these issues have been addressed through various innovative design solutions.
- (b) Have an appreciation of the development of innovative design solutions through close co-operation and feedback between designers, manufacturers and construction processors.
- (c) Have a basic ability to solve technological design issues through a logical approach. Demonstrate improved presentation techniques.

Indicative Content:

The identification of current social issues and technical developments such as changing work patterns and new materials. To examine through various case studies and the work of selected Architects, innovative design solutions which reflect current social issues and client requirements, and/or specific design intentions. To address and apply technological design solutions to specific tasks.

Main Learning and Teaching Activities:

The course will be taught by a combination of lectures, seminars and studio based projects.

Assessment Details:

Methods of Assessment	Please identify the LAST item of assessment that a student sits with a tick	Grading Mode	Weighting %	Minimum Pass Mark	Words Length	Outline Details
Portfolio	✓	Numerical %	100	40%	3,000	Varied portfolio of work

COURSE DEFINITION

Course Code:	BUIL 1039	School:	Architecture and Construction
Course Title:	MANAGEMENT PRINCIPLES		
Level:	2	Credit:	15
Team:	Construction Management		
Course Coordinator:			

Introduction and Rationale

This Course provides a foundation for the study of management. It provides an introduction to the purpose and functions performed by management and managers in organisations. It provides the context into which each individual's efforts are integrated and directed through the organisations in which they exist and work.

Aims

The course aims to:

- a) to introduce students to the history and development of management thinking;
- b) to introduce the role and contribution of management in modern society;
- c) to provide an understanding of the contribution of managers to organisations;
- d) to introduce the concepts of management.

Learning Outcomes

At the end of the course, the student will:

- a) appreciate the origins and development of management thinking;
- b) know the functions of management within organisations and society;
- c) understand the functions and roles performed by managers;
- d) appreciate the principles of leadership and their application to work organisations;
- e) appreciate the principles of motivation and their application to work organisations.

Indicative Content

Theory and science of management; history and development of management thinking; functions of management; the roles and functions performed by managers and their contribution to successful organisations; organisational form and structure, organisational environment, environmental scanning, internal environment and organisational culture; leadership theories and selection; motivation.

Main Learning and Teaching Activities

This course will be taught by a combination of lectures, seminars and studio based projects.

Assessment Details

Methods of Assessment	LAST item of assessment	Grading Mode	Weighting %	Minimum Pass Mark	Words Length	Outline Details
Portfolio	✓	Numerical %	100	40%	3,000	Varied portfolio of work

Key texts

ISBN Number	Author	Date	Title	Publisher
0-333-772407	Eyre, E & Pettinger, R	1999	Mastering Basic Management (3 rd ed)	Macmillan
0-195087321	Handy, C	2002	Understanding Organisations (4 th ed)	OUP
0815847471	John p. Kotter	1996	Business / Economics / Finance	Harvard Business School Press
0566079380	Dennis Lock	1998	The Gower Handbook of Management	Gower Publishing Company

COURSE DEFINITION

Course Code:	BUIL 0061	School:	Architecture and Construction
Course Title:	MEASUREMENT		
Level:	1	Credit:	15
Team:	Construction Management		
Course Co-ordinator:		Pre-requisites:	None

Introduction and Rationale:

The measurement of construction operations is an important prerequisite to financial control and represents a major skills of the quantity surveyor. This course introduces students to the basic principles relating to the measurement of construction work..

Aims:

The course aims to:

- a) introduce students to the basic principles and techniques of measurement and description of building work;
- b) to develop accuracy in translating drawing work into materials schedules;
- c) to develop skills associated with the interpretation and use of the current Standard Method of Measurement of Building Works;
- d) to provide an introduction to the compilation and preparation of Bills of Quantities.

Learning Outcomes:

At the end of the course, the student will be able to:

- a) explain the need for consistency of approach in the measurement of building work and its associated applications eg tendering, estimating and costing;
- b) describe, measure and quantify construction work in accordance with the Standard Method of Measurement;
- c) present measured work in a standard format for estimating and obtaining tenders;
- d) develop a methodical approach to building up the sequence of events and the sub-division of work;
- e) appreciate the process involved in the production of descriptive tendering documentation;
- f) apply general guidelines to the drafting and the production of Bills of Quantities.

Indicative Content:

Principles of measurement and introduction to the current Standard Method of Measurement development: SMM7. The application of measurement techniques. The measurement and description of construction work and guidance on 'taking off' a complete project by sub-division of work into substructure, superstructure and finishes and fittings. Processing of measured work and production of Bills of Quantities

Main Learning and Teaching Activities:

The course will be taught by a combination of lectures, seminars and studio based projects.

Assessment Details:

Methods of Assessment	LAST item of assessment	Grading Mode	Weighting %	Minimum Pass Mark	Words Length	Outline Details
Portfolio	✓	Numerical %	100	40%	3,000	Varied portfolio of work

Keytexts:

ISBN Number	Author	Date	Title	Publisher
0854063617	RICS	1998	Code of Procedure for the Measurement of Building Work 2 nd Ed	RICS
0854063609	RICS	1988 (revised 2000)	Standard Method of Measurement for Building Works (7 th Edition)	RICS
0333719727	Seeley, I H	1998	Building Quantities Explained 5 th Ed	Macmillan

COURSE DEFINITION

Course Code:	BUIL 0063	School:	Architecture and Construction
Course Title:	PROJECT EVALUATION AND DESIGN	Credit:	15
Level:	1	Pre-requisites:	None
Team:	Construction Management		
Course Co-ordinator:			

Introduction and Rationale:

This course provides students with the opportunity to examine the economic, legislative, social, architectural and technical factors affecting the conception, design, construction and use of buildings. The course also examines the options available to clients for the organisation and management of the design and construction processes. The use of group work in this course reflects the industry emphasis on team working across professional disciplines.

Aims:

The course aims to:

- a) introduce students to the property development process and to project procurement options;
- b) introduce students to the design constraints imposed by legislation;
- c) provide student with a range of techniques to assess project viability and feasibility;
- d) introduce students to design briefing techniques;
- e) provide students with an understanding of the influence of the site, environmental and locational factors on development proposals;
- f) develop students abilities in working in groups.

Learning Outcomes:

At the end of the course, the student will be able to:

- a) demonstrate competence in carrying out user studies and writing design briefs;
- b) evaluate the relative importance of the influencing factors on project design;
- c) demonstrate competence in the conceptual design of building projects;
- d) demonstrate an understanding of the factors affecting successful group working.

Indicative Content:

Project briefing, user requirements studies, market research, Project feasibility, development finance and financial appraisal studies, Legislative control of development: town planning acts, Building Regulations, Introduction to CDM Regulations, Social influences on design, Environmental impact, urban design, constructional and architectural influences on design, architectural characteristics of materials, site analysis and building condition surveys, site planning for energy conservation.

Learning and Teaching Activities:

The course will be taught by a combination of lectures, seminars and studio bases projects.

Assessment Details:

Methods of Assessment	Please identify the LAST item of assessment that a student sits with a tick	Grading Mode	Weighting %	Minimum Pass Mark	Words Length	Outline Details
Portfolio	✓	Numerical %	100	40%	3,000	Varied portfolio of work

Keytexts:

ISBN Number	Author	Date	Title	Publisher
0632042516	Ferry, D & Brandon, P	1999	<i>Cost Planning of Buildings (7th Ed)</i>	Blackwell
0952589702	Gatepain, R	1995	Successful Property Development	RIA
1859460801	Lupton, S	2000	Architect's Job Book (7 th Ed)	RIBA
1859460682	Phillips, R	2000	The Architect's Plan of Works	RIBA
0419244603	Beer, A	2000	Environmental Planning for Site Development	Spon
063204117X	Brown, H & Salt, A	1998	Planning Applications: the RJMM Guide	Blackwell
0419202404	Cadman, D & Topping R	1995	Property Development	Spon

COURSE DEFINITION

Course Code:	BUIL 0071	School:	Architecture and Construction
Course Title:	PROJECT		
Level:	2	Credit:	15
Team:	Construction Management		
Course Co-ordinator:		Pre-requisites:	None

Introduction and Rationale:

The project course offers the student a simulated vocational context in which to demonstrate an understanding of specific professional skills in relation to the multidisciplinary nature of the construction industry and the complexity of construction projects. It also provides an opportunity for students to inter-relate several components of the programme.

Aims:

The course aims to:

- integrate the programme content of several courses within an appropriate vocational context;
- further develop student skills in planning and managing their own work and working with others;
- develop students understanding of the complexity of construction projects and to the processes involved in resolving design, management, technical and contractual problems.

Learning Outcomes:

At the end of the course, the student will be able to:

- locate and use a number of information sources relating to the construction industry;
- select and analyse complex information and apply this to specific vocational tasks relating to construction projects;
- co-ordinate and integrate work with that of others in accordance with a fixed deadline;
- understand the interdependence of the roles and the responsibilities of the professionals within the construction industry;
- use appropriate media for the effective presentation and communication of information.

Indicative Content:

The content of the Project course will be determined by the vocational context selected but will typically be based on topics such as:

Development and finalisation of a design brief
Development of alternative design solutions
Preparation and presentation of a final design package
Detailed design of an element of a building
Value engineering exercise related to an element of a building
Tendering documentation exercise
Estimating and tender evaluation exercise
Organisation of the construction site
Preparation of method statement and project programme
Examination and solution of typical problems occurring during construction stage of project
Preparation of a valuation

Main Learning and Teaching Activities:

The course is essentially student centred by students will be supported and supervised by one or more members of staff in individual or group tutorials.

Assessment Details:

Methods of Assessment	Please identify the LAST item of assessment that a student sits with a tick	Grading Mode	Weighting %	Minimum Pass Mark	Words Length	Outline Details
Portfolio	✓	Numerical %	100	40%	3,000	Varied portfolio of work

Keytexts:

The reading list will be derived partly from other courses but students will be advised of additional reading when the project topics have been selected.

COURSE DEFINITION

Course Code:	BUIL 0072	School:	Architecture and Construction
Course Title:	QUANTITY SURVEYING PRACTICE & MANAGEMENT		
Level:	1	Credit:	15
Team:	Construction Management		
Course Co-ordinator:		Pre-requisites:	None

Introduction and Rationale:

This course will provide students with an understanding of the nature and scope of the roles, responsibilities and contractual obligations of the quantity surveyor in terms of contract financial management, control and accounting with regards to the commonly used forms of building contract in the construction process.

Aims:

The course aims:

- (a) To develop an understanding of the nature, principles and procedures of quantity surveying practice and management.
- (b) To develop an appreciation of the importance and methods of financial reporting and final account statements.
- (c) To provide students with an understanding of the life cycle costing process and value engineering.

Learning Outcomes:

At the end of the course, the student will be able to:

- (a) Select and apply appropriate techniques for the financial control of projects.
- (b) Prepare and evaluate financial reports
- (c) Prepare interim valuations and final accounts.
- (d) Evaluate and resolve claims for financial loss and extensions of time.
- (e) Understand the contractual obligations of parties in bankruptcy.

Indicative Content:

Financial report preparation and their importance. Examination of typical financial statements. Interim valuations including retention, measured work, materials on/off site and fluctuations. Preparation of final accounts. Assessment and resolution of claims. Bankruptcy and insolvency in contracts. Financial control of projects including Life Cycle costing and Value Engineering.

Main Learning and Teaching Activities:

The course will be taught by a combination of lectures, seminars and studio based projects.

Assessment Details:

Methods of Assessment	Please identify the LAST item of assessment that a student sits with a tick	Grading Mode	Weighting %	Minimum Pass Mark	Words Length	Outline Details
Portfolio	✓	Numerical %	100	40%	3,000	Varied portfolio of work

COURSE DEFINITION

Course Code:	CIVI 0042	School:	Architecture and Construction
Course Title:	SITE ENGINEERING AND SURVEYING	Credit:	15
Level:	1	Pre-requisites:	None
Team:	Construction Management		
Course Co-ordinator:			

Introduction and Rationale:

This course will illustrate how sites are surveyed and thereafter how construction works are set out and controlled.

Aims:

The course aims to:

- a) develop an understanding of techniques used in site surveying and site engineering;
- b) enable students to develop expertise in the use of surveying instruments;
- c) provide students with an appreciation of the critical role that site engineering plays in the construction process.

Learning Outcomes:

At the end of the course, the student will:

- a) appreciate the requirements of the site survey and carry out such a task to completion;
- b) use a comprehensive range of surveying instruments currently employed on construction sites;
- c) identify and understand the site engineer's role in the construction process.

Content:

Height measurement including the use of optical and laser levels as well as heighting by Total Station theodolite. *Angular measurement* including Total Station and other digital reading theodolites. *Distance measurement* including tapes, bands, laser devices and EDM. *Site setting-out* including the primary setting out and control of earthworks, substructure, superstructure, roads and drainage. *Drawings* (manual/CAD) representing relevant Site Survey information. *Calculations & computations* associated with all the preceding, including grid, sectional and other levels; contours; x, y, z co-ordinates; setting out from co-ordinates; gradients etc.

Learning and Teaching Activities:

The course will be taught by a combination of lectures, workshops and field work. Emphasis will be placed on hands-on techniques in the delivery of the course.

Assessment Details:

Methods of Assessment	Please identify the LAST item of assessment that a student sits with a tick	Grading Mode	Weighting %	Minimum Pass Mark	Words Length	Outline Details
Portfolio	✓	Numerical %	100	40%	3,000	Varied portfolio of work

Indicative Texts:

ISBN Number	Author	Date	Title	Publisher
0750649879	Schofield, W	2001	Engineering Surveying (5 th Ed)	Butterworth
0-860174786	Sadgrove, B	1999	Setting Out Procedures	CIRIA
0-333577051	Uren, J & Price, W F	1994	Surveying for Engineers	Macmillan
0-582302498	Bannister, Raymond & Baker	1998	Surveying	Longman

COURSE DEFINITION

Course Code:	BUIL 0074	School:	Architecture and Construction
Course Title:	TENDERING AND ESTIMATING		
Level:	2	Credit:	15
Department:	Construction Management		
Course Co-ordinator:		Pre-requisites:	None

Introduction and Rationale:

This course is intended to provide students with an understanding of the principles of tendering and estimating and to develop competences in aspects of tendering and estimating procedures used in the construction industry.

Aims:

The course aims to:

- a) introduce students to the nature, principles and procedures of tendering and estimating as applied to the construction industry;
- b) develop the ability to apply these principles and procedures to real and simulated situations;

Learning Outcomes:

At the end of the course, the student will be able to:

- a) demonstrate an understanding of tendering and estimating principles;
- b) demonstrate an understanding of the documentation commonly used in tendering and the process involved in the preparation of such documentation;
- c) quantify and evaluate costs and prices;
- d) appreciate the use of computer applications for estimating.

Content:

An examination of tendering documentation: objectives of various documents and relationship between documents regarding value and costs. Tendering procedures and forms of tendering: open, selective, negotiated, simple lump sum, Bills of approximate/firm quantities, schedules of rates, prime cost reimbursement, etc. the application of estimating principles: bidding strategy and analysis of bidding performance. Analysis of cash flow forecasting techniques for clients and contractors. Organisational factors and their effects on production costs. Project overheads and the effects on profitability of contracts. Development of rates for labour, materials and plant items. Tendering policy and the development of mark-up targets. Introduction to computer applications for estimating.

Learning and Teaching Activities:

The course will be taught by a combination of lectures and studio work including seminars.

Assessment Details:

Methods of Assessment	LAST item of assessment	Grading Mode	Weighting %	Minimum Pass Mark	Words Length	Outline Details
Portfolio	✓	Numerical %	100	40%	3,000	Varied portfolio of work

Indicative Texts:

ISBN Number	Author	Date	Title	Publisher
0582369096	Ashworth, A	1999	<i>Cost Studies of Buildings</i>	Longman
058230279X	CIOB	1997	Code of Estimating Practice	Longman
0566074907	Kwakye	1994	Understanding Tendering and Estimating	Gower
0750634073	Brook, M	1998	Estimating and Tendering for Construction Work	Butterworth

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