Liverpool John Moores University

Title:	DESIGN PRINCIPLES AND APPLICATION
Status:	Definitive
Code:	**4000BEHN** (102267)
Version Start Date:	01-08-2011
Owning School/Faculty:	Built Environment
Teaching School/Faculty:	Built Environment

Team	Leader
Lynne Bell	Y

Academic Level:	FHEQ4	**Credit Value:**	12.00	**Total Delivered Hours:**	42.00
Total Learning Hours:	120	**Private Study:**	78		

Delivery Options
Course typically offered: Semester 1

Component	Contact Hours
Lecture	24.000
Practical	6.000
Tutorial	12.000

Grading Basis: BTEC

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	AS1	Assignment 1	50.0	
Essay	AS2	Assignment 2	50.0	

Aims

To provide the student with a fundamental understanding of the design process and of how the planning and design phases are co-ordinated and managed.
To help students develop the ability to analyse, evaluate and apply the design in terms of the production and cost implications for construction projects.

Learning Outcomes

After completing the module the student should be able to:

1 Differentiate between the planning, design and production phases of the construction process and describe the co-ordination and management of each phase.
2 Analyse the various factors that affect the selection of materials, systems and equipment and evaluate the environmental impact of energy and other constraints on the planning, design and construcion process.
3 Describe the roles, responsibilities and obligations (including liability for health, safety and welfare) of all parties to a development.
4 Demonstrate how technology affects the design of a construction project and also the design process and procedures used in the production phase.

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

REPORT	1	3
ESSAY	2	4

Outline Syllabus

Planning, design and production phases:
Planning and design of a project: the client's brief, aesthetics of the project and the process, influence of shape, size and proportion, position, location and structural considerations of a building, an engineering project or a plant system, content of the project.
Land issues: effects of green/brown and reclaimed land on a project.
Health, safety and welfare: issues in design, maintenance an demolition.
Financial considerations: financial implications and sources of funding, financial planning including the cost of building, the cost of commissioning, costs in use, life cycle costing, cost modelling and facilities management.
Planning and control considerations: legal restraints, town and country planning, building regulations and European legislation.
Design considerations: designing for planned use, designing for inclusivity, for change of use, for versatility, designing for disability, relevant legislation and Acts of Parliament.

Materials selection, systems and equipment and environmental impact:
Environmental planning: the selection of materials and the form(s) of construction, use of new and renewable resources, use of recycled materials where appropriate.
Energy efficiencies: production of materials, processing of materials and services within the building or project.
Services required: into and out of the building or project, disposal of waste materials form the construction process, disposal of waste materials from the use of the building or project, availability of services to a building or project, services used by a building or project.
Roles, responsibilities and obligations:

Construction team: their roles and responsibilities at various stages including planning and development, design, surveying, construction, maintenance and facilities management. An understanding of the part they play is required in terms of the roles of each party to the process, activities undertaken by each party to the process.
Obligations and responsibilities: of each party to the process, liabilities of each party to the process (including both corporate and personal responsibility for health, safety and welfare).

Learning Activities

Lectures, tutorials, problem solving sessions, drawing office, computer workshops.

References

Course Material	Book
Author	Health and Safety Council
Publishing Year	2001
Title	Managing Health and Safety in Construction CDM Regs Approved Code of Practice
Subtitle	
Edition	
Publisher	Health and Safety Council
ISBN	0717621391

Course Material	Book
Author	RIBA
Publishing Year	2000
Title	The Architects Plan of Work
Subtitle	
Edition	
Publisher	RIBA Publications
ISBN	1859460682

Course Material	Book
Author	BRE
Publishing Year	2003
Title	Housing Design Handbook
Subtitle	
Edition	
Publisher	BRE
ISBN	0851256015

Notes

The module aims to provide the student with the information required to design a house from first principles. The module also aims to demonstrate the interrelationship of design, construction, health and safety, building regulations and environmental issues.