Liverpool John Moores University

Title:	DESIGN PRINCIPLES AND CIVIL ENGINEERING TECHNOLOGY
Status:	Definitive
Code:	**4101BEHN** (117957)
Version Start Date:	01-08-2016
Owning School/Faculty:	Civil Engineering
Teaching School/Faculty:	Civil Engineering

Team	Leader
William Atherton	Y
Clare Harris	

Academic Level:	FHEQ4	**Credit Value:**	24	**Total Delivered Hours:**	72
Total Learning Hours:	240	**Private Study:**	168		

Delivery Options
Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	24
Tutorial	24
Workshop	24

Grading Basis: BTEC

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	AS1		30	
Presentation	AS2		20	
Portfolio	AS3		40	
Self Awareness Statement	AS4		10	

Aims

To provide the student with a fundamental understanding of the design process and

of how the planning and design phases are coordinated and managed.
To help students develop the ability to apply, analyse and evaluate the design in terms of the production and cost implications for construction projects.
To encourage students to reflect on their level of competency regarding employability skills and identify opportunities for developing these skills.

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 construction process.
3 Demonstrate the outcomes of relevant feasibility studies relating to construction projects.
4 Describe the roles, responsibilities and obligations (including liability for health and safety and welfare) of all parties to a construction project.
5 Demonstrate how technology affects the design of a construction project and also the design process and procedures used in the production phase.
6 Differentiate between an initial cost based approach to the procurement of a major project and a whole life cycle approach.
7 Demonstrate how Building Regulations impact the design process.
8 To identify and reflect upon the following aspects of personal development: strengths and weaknesses, motivations and values, ability to work with others.

Learning Outcomes of Assessments

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

REPORT	1	2	5
ORAL PRESENTATION	3		
PORTFOLIO	4	6	7
WoW Skills Bronze	8		

Outline Syllabus

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 and demolition together

with understanding of methods and theories used to construct substructures including excavations and the application of the CDM Regulations (2007).

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.

Learning Activities

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

Notes

Case studies will be used in order to develop a working knowledge of the design and planning processes used in the construction industry. Where appropriate, role-play will be encouraged to develop a better understanding of the subject matter together with the difficulties that are encountered in the design and the planning of a construction project. Students will normally work in groups to present scenarios for discussion and an element of peer review will be used to develop understanding.