

Summary Information

Module Code	4400CIVH
Formal Module Title	Design Principles
Owning School	Civil Engineering and Built Environment
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 4
Grading Schema	40

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Edward Loffill	Yes	N/A

Module Team Member

Contact Name	Applies to all offerings	Offerings
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Partner Module Team

Contact Name	Applies to all offerings	Offerings
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Teaching Responsibility

LJMU Schools involved in Delivery
Civil Engineering and Built Environment

Learning Methods

Learning Method Type	Hours
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Lecture	24
Workshop	24

Module Offering(s)

Offering Code	Location	Start Month	Duration
SEP-CTY	CTY	September	28 Weeks

Aims and Outcomes

Aims	To provide the student with a fundamental understanding of the design process and engineering choices. To help students develop the ability to apply, analyse and evaluate the design process with consideration of sustainability (including life cycle), cost, time and quality. To encourage students to reflect on their level of competency regarding employability skills and identify opportunities for developing these skills.
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Learning Outcomes

After completing the module the student should be able to:

Code	Description
MLO1	Understand the planning, design and production phases of the construction process and describe the co-ordination and management of each phase.
MLO2	Discuss 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.
MLO3	Describe the roles, responsibilities and obligations (including liability for health and safety and welfare) of all parties to a construction project.
MLO4	Demonstrate how technology affects the design of a construction project and also the design process and procedures used in the production phase.
MLO5	Identify and reflect upon the aspects of the project that led to personal development and improvement in team working skills to achieve the final submission.

Module Content

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 field sites 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 current CDM Regulations. 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.

Module Overview

Additional Information

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.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Learning Outcome Mapping
Presentation	GROUP PRESENTATION	50	0	MLO2
Report	2500 WORD INDIVIDUAL	50	0	MLO1, MLO3, MLO5, MLO4, MLO2