

Liverpool John Moores University

Title: DESIGN PROCEDURES FOR CONSTRUCTION
Status: Definitive
Code: **5102BEHN** (118181)
Version Start Date: 01-08-2012

Owning School/Faculty: Built Environment
Teaching School/Faculty: Built Environment

| Team | Leader |
|----------------------|--------|
| Patrick Dunlea-Jones | Y |

Academic Level: FHEQ5 **Credit Value:** 24.00 **Total Delivered Hours:** 72.00
Total Learning Hours: 240 **Private Study:** 168

Delivery Options

Course typically offered: Standard Year Long

| Component | Contact Hours |
|-----------|---------------|
| Lecture | 24.000 |
| Tutorial | 48.000 |

Grading Basis: BTEC

Assessment Details

| Category | Short Description | Description | Weighting (%) | Exam Duration |
|--------------|-------------------|-------------|---------------|---------------|
| Presentation | AS1 | | 60.0 | |
| Test | AS2 | | 20.0 | |
| Essay | AS3 | | 20.0 | |

Aims

- To enable the student to describe and apply basic principles of successful design and to produce simple building design solutions.
- To establish competence in the practice of contract management for construction projects from both designer/client and contractor perspectives.
- To develop knowledge of both the management and day-to-day issues that affect construction project.

Learning Outcomes

After completing the module the student should be able to:

- 1 Discuss the principles of successful design.
- 2 Develop a brief through research and analysis for a medium size building and assess the feasibility of a site for development.
- 3 Research and develop alternative sustainable design solutions taking into consideration building performance and efficiency.
- 4 Investigate, analyse and resolve conflicting technical and construction factors to achieve detailed design solutions.
- 5 Analyse the roles of and relationships between members of the project team.
- 6 Evaluate the systems available for the control and monitoring of construction works with regard to cost, time, quality and risk, and understand how these apply to different projects.
- 7 Explain the documentation required during the project and compare information retrieval systems.

Learning Outcomes of Assessments

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

| | | | | |
|--------------|---|---|---|---|
| PRESENTATION | 1 | 2 | 3 | 4 |
| TEST | 5 | 6 | | |
| ESSAY | 7 | | | |

Outline Syllabus

*Successful design: historic developments in building design and resultant design terminology;
basis of design concepts (communication within the design team); need to freeze design to enable design development*

*Proposals and Constraints: for project brief, client requirements; user factors. site-specific issues; economics of design and production;
specialist design requirements (disabled access); material selection*

Design Development

*Technologies, approaches and initiatives: current technologies to assist the designer;
technological influence on design; 'green' approaches eg sustainability, adaptability, buildability; initiatives eg carbon neutral buildings; development frameworks such as Code for*

Sustainable Homes

Design brief: appropriate information; stakeholder requirements; information

coordination;
legal aspects; specifications
Design solution: design brief (meeting requirements); set of architectural and structural drawings
Presentation of drawings and justification of design.
Analysis of design options and review and modification of proposals.
Methods and techniques for preparing detailed designs.
Preparation of design documentation for projects.

Contracts – form, type, selection, operation and documentation
Inspection and certification of work: control of works; payments; insurance; administrative and contract documentation; coordination of information with specialists and consultants
Quality control: methods of quality control (on-site, off-site)
Contract completion: contractual conditions; main contract implications; commencement and completion; handover; defects; liability; final certification

Documentation: drawing office programmes; time sheets; fee stages; standard contract documents
Role of design technologist: effective team leadership and personnel management; legal requirements and responsibilities
Information retrieval: computer-aided design (CAD) packages; Building Information Modelling (BIM); '4-D' software packages

Learning Activities

Lectures, studio work, tutorials.

References

| | |
|------------------------|-------------------------|
| Course Material | Journal / Article |
| Author | VARIOUS |
| Publishing Year | |
| Title | The Architects' Journal |
| Subtitle | |
| Edition | |
| Publisher | The Architects' Journal |
| ISBN | |

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|------------------------|------------------------|
| Course Material | Book |
| Author | Styles K. & Bichard A. |

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|------------------------|--------------------------|
| Publishing Year | 2004 |
| Title | Working Drawing Handbook |
| Subtitle | |
| Edition | 4th |
| Publisher | Architectural Press |
| ISBN | 07506637223 |

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|------------------------|--------------------------|
| Course Material | Book |
| Author | Emmitt S |
| Publishing Year | 2002 |
| Title | Architectural Technology |
| Subtitle | |
| Edition | |
| Publisher | Blackwell Science |
| ISBN | 9780632064038 |

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|------------------------|--|
| Course Material | Book |
| Author | Wienand, Norman |
| Publishing Year | 2008 |
| Title | Materials, specification and detailing: foundations of building design |
| Subtitle | |
| Edition | |
| Publisher | Taylor and Francis |
| ISBN | 9780415403580 |

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|------------------------|--|
| Course Material | Book |
| Author | Hackett, M, Robinson, I, Statham, G |
| Publishing Year | 2006 |
| Title | 'The Aqua Group Guide to Procurement, Tendering and Contract Administration' |
| Subtitle | |
| Edition | 1st |
| Publisher | Wiley-Blackwell |
| ISBN | 1405131985 |

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|------------------------|---|
| Course Material | Book |
| Author | Murdoch, J, Hughes, W |
| Publishing Year | 2008 |
| Title | 'Construction Contracts – Law and management' |
| Subtitle | |
| Edition | |
| Publisher | Taylor & Francis |
| ISBN | 041539368 |

Notes

This module is studio based and focuses on the practical application of design and technical skills taught in other modules via the development of a design for a medium size non domestic project. It also develops an understanding of, and competence in the administration and delivery of successful construction projects from inception to completion.