

## Liverpool John Moores University

Title: BUILDING ENGINEERING RESEARCH PROJECT  
Status: Definitive  
Code: **6504ICBTBS** (127102)  
Version Start Date: 01-08-2021

Owning School/Faculty: Civil Engineering and Built Environment  
Teaching School/Faculty: ICBT, Colombo

Team	Leader
Alison Cotgrave	Y

**Academic Level:** FHEQ6  
**Credit Value:** 40  
**Total Delivered Hours:** 40  
**Total Learning Hours:** 400  
**Private Study:** 360

### Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	20
Tutorial	20

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Dissertation	AS3	Final dissertation report	90	
Presentation	AS2	Presentation of proposal, reading to date and initial findings	10	

### Aims

*To enable students to complete a substantial piece of individual work and build on their expertise in a Building Engineering subject.*

*To develop students' research, time management, presentation and written communication skills.*

## Learning Outcomes

After completing the module the student should be able to:

- 1 Identify a research question, problem or hypothesis and establish aims and objectives to support the investigation.
- 2 Collate, and appraise existing knowledge in an Engineering field relevant to your programme and present a critical evaluation in the form of a literature review.
- 3 Develop and refine a research and data collection strategy appropriate to the research question / problem posed.
- 4 Source, collect, and analyse relevant and original qualitative and / or quantitative data.
- 5 Conduct an appropriate practical and/or laboratory programme to validate theoretical research.
- 6 Synthesise, analyse and critically evaluate the research findings using reasoned and logical arguments within a structured written framework and communicate the outcomes and methodology of research verbally and in written form.

## Learning Outcomes of Assessments

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

Final dissertation report	2	3	4	5	6
Presentation of proposal	1	6			

## Outline Syllabus

*The outline syllabus is designed to understand the academic research process and the differing techniques, strategies and methods used to undertake engineering research in the built environment. Research methods, approaches and strategies will be taught at the commencement of the module. The project provides the opportunity to conduct a major supervised learning activity on a relevant engineering or technical topic. The project requires the student to demonstrate good project management, critical evaluation and presentation skills.*

### *1. Introduction to the Dissertation:*

*The selection of a Research Topic and formulation of a research question.  
Establishing a research aim and setting / tailoring objectives to fulfil that goal  
The structure and purpose of a dissertation  
Literature search/Writing a literature review*

### *2. Research Methods, Approaches and Strategies:*

*The Inductive versus Deductive Approach  
Qualitative and Quantitative Research  
Data Collection Strategies and Tools (Interviews, Field Tests, Lab Tests, Surveys, Questionnaires, Case Studies)  
The Knowledge Database. Effective Literature Searching and Literature Reviews*

### *3. Data Analysis:*

*Qualitative and Quantitative Data Analysis*

*Data Analysis tools including SPSS and NVivo  
Data Presentation*

### **Learning Activities**

Individual study and investigation. Supported by nominated Supervisor; lectures; workshops.

### **Notes**

The dissertation enables students to personally select, and complete an in-depth study on, a topic related to Building Engineering. The module develops students' practical research skills and enhances their knowledge and expertise in Building Engineering. As the completion of a dissertation is principally student-led the module offers the opportunity to further develop time management, presentation and communication skills.