

Retrofit Concept and Practice

Module Descriptor

Module Code: RET5COP
Version: 1.00
Status: Final
Date: 28/02/2024

Summary Module Details

Module details

Module Title: Retrofit Concept and Practice

Module Leader: Marc Fleming / Robert Otter

Module Mode: Supported online learning

Semester: Autumn (UK) and Spring (UK)

Level: 5

Credits: 20

Learning Hours: 200

Contact & Study Hours

Directed Study Time: 90 hrs (45%)

Self-directed Study Time: 50 hrs (25%)

Assessment Study Time: 60 hrs (30%)

Assessment Type

Coursework: 0%

Computer Based Assessment: 0%

Portfolio: 0%

Presentation: 25%

Project: 0%

Practical: 75%

Self-directed Research: 0%

Module Summary

This module explores a range of retrofitting and refurbishment project types and associated issues. Retrofit is a crucial function in terms of keeping existing buildings in use and fit for purpose. Therefore, an understanding of critical retrofit options is essential. This module thus provides an opportunity to develop the knowledge, understanding and skills required to appraise and develop retrofit and refurbishment solutions within the context of stakeholder requirements and the construction industry.

Taken on which Programmes

BSc (Hons) Architectural Design Technology (C)

BSc (Hons) Building Control (C)

BSc (Hons) Construction Management (C)

Core (C) or Elective (E)

Retrofit Concept and Practice

Module Aims

This module aims to introduce basic principles of retrofitting to students. In the module, students will learn about legislation that underpins retrofitting before embarking on content that allows them to understand decision making processes that inform short, medium, and long-term retrofit options, including adaptation to mitigate the causes and effects of climate change.

Students will then learn about the technologies used to enhance building fabric to meet standards as well as the renewable technologies that contribute to whole building performance.

The module then culminates with a look at conflicts between retrofitting and issues such as moisture and ventilation as well as the skills requirements and retrofit performance evaluation methods.

Module Learning Outcomes

- LO1. Understand the context of refurb/retro fit and sustainability drivers.
- LO2. Demonstrate an understanding of decision-making practices and standards relative to the retrofitting of buildings.
- LO3. Describe and demonstrate an understanding of a design option appraisal ensuring compliance with building regulations, energy efficiency, accessibility, and structural performance requirements.
- LO4. Demonstrate knowledge and critical understanding of the implications and success of refurb/retro fit on standard project processes.

Indicative Module Content

Module topics

- Introduction to Retrofit in Domestic and Non-Domestic contexts.
- Rationale and Drivers: Circular Economy and Zero carbon.
- Legislation, Retrofit and Building Performance Standards (PAS 2305 / 2038 etc).
- Retrofit Practices I: Stakeholder Engagement and Assessment.
- Retrofit Practices II: Decisions for Short, Medium and Long Term Retrofit Strategies.
- Retrofit Construction Methods: Domestic.
- Retrofit Construction Methods: Non-Domestic.
- Retrofit Technologies: Building Services and Renewable Technologies.
- Moisture and Retrofit Pathology.
- Improving Airtightness and Ventilation.
- Skills for Retrofit.
- Retrofit Testing, Performance Monitoring and Evaluation.

This content will be reviewed and updated regularly to reflect the legal, ethical, and financial changes in professional standards and practice.

Overview of Summative Assessment

Module learning outcomes	Assessment	Word count or equivalent	Weighting
LO1, LO2, LO3, LO4	Assessment 1 Practical	3,000 word equivalent	75%
LO1, LO2, LO3, LO4	Assessment 2 Presentation	1,000 word equivalent	25%

Module Pass Mark (as a weighted average of all assessments): 40%

Key Module Learning Resources

Core Sources and Texts

The core reading resources within each module will be provided via the specific Virtual Learning Environment (VLE) module pages and within the e-Library. Additional reference material and supplementary resources to support your studies are available through the UCEM e-Library.

Module tools

Students will have access to study materials, dedicated academic support, student forums, and learning activities via an online learning platform (VLE).

The module page on the VLE is broken down into structured study weeks to help students plan their time, with each week containing a mixture of reading, case studies, videos/recordings, and interactive activities to go through. Online webinars/seminars led by the Module Leader can be attended in real time and provide opportunities to consolidate knowledge, ask questions, discuss topics and work through learning activities together. These sessions are recorded to support students who cannot attend and to enable students to recap the session and work through it at their own pace. Module forums on the VLE provide further opportunities to discuss topics with other students, complete collaborative work and get extra help from the module team.

Professional online resources

The e-Library provides access to trusted, quality online resources, selected by subject specialists, to support students' study. This includes journals, industry publications, magazines, academic books, and a dissertation/work-based library. For a list of the key industry specific and education resources available please visit [the VLE e-Library](#).

Other relevant resources

Access is also provided to further information sources that include the British Library and Open University UK catalogues, as well as providing a monthly current awareness service entitled, **Knowledge Foundations** - a compendium of news, research and resources relating to the educational sector and the Built Environment.

The module resource list is available on the module VLE page and is updated regularly to ensure materials are relevant and current.