Module Specification

Facade Materials and Components

Version: 2024-25, v4.0, 11 Jul 2024

Contents

Part 1: Information

Module title: Facade Materials and Components

Module code: UBLMFK-15-M

Level: Level 7

For implementation from: 2024-25

UWE credit rating: 15

ECTS credit rating: 7.5

College: College of Arts, Technology and Environment

School: CATE School of Architecture and Environment

Partner institutions: None

Field: Architecture and the Built Environment

Module type: Module

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: A module in the MSc Facade Engineering programme. Only suitable as CPD for people with extensive prior knowledge of Facade systems.

Features: Not applicable

Educational aims: This module covers the principal materials used in a contemporary facade with the exception of glass which is covered by a discrete unit on glass and glazing.

Outline syllabus: Material selection plays a key role in façade design. In addition to providing the façade aesthetic, different materials and their detailing will influence numerous factors including the thermal performance, fire performance, weathertightness and durability.

Failure to understand how different materials perform, how they should be maintained and limitations to their use will result in a façade which will not perform as intended and ultimately fail prematurely.

Module Aims:
To provide an understanding of the through-life performance of the many materials used in façade construction.

Content:
Overview of materials including: metal, ceramic, polymeric, timber and fabric. Forming and assembly processes. Durability and processes of degradation. Methods for assessing performance including Failure Mode Effects Analysis (FMEA).

Part 3: Teaching and learning methods

Teaching and learning methods: The module will be delivered by means of:

Lectures and seminars which enable students to support their own independent learning by exploring deeper issues pertaining to Façade Engineering and receiving formative feedback. Occasional speakers will be used to provide up to date material and context to the applications of the subject area.

A series of tutorials are designed to provide knowledge and practical skills relevant to façade engineering.

Presentations by and to the group by the students will also be used to enable students to develop the skills and capabilities to analyse problems, negotiate, make decisions and present solutions to problems. The formative work in the presentation

will provide research material useful to the final report.

Directed reading examining the key principles and relevant criteria relating to a number of topics of importance to façade Engineering.

The module is delivered by way of five study days for face to face teaching.

Module Learning outcomes: On successful completion of this module students will achieve the following learning outcomes.

MO1 Describe the manufacturing process of common façade materials, identifying how physical properties are developed, the testing undertaken, quality standards that are followed and how sustainability targets are achieved.

MO2 Assess how materials are selected and assembled into complex façade components.

MO3 Critically assess a proposed mounting detail of a façade component, evaluating the risk of failure or deration over time of materials used.

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 118 hours

Face-to-face learning = 32 hours

Total = 0

Reading list: The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link https://uwe.rl.talis.com/modules/ublmfk-15-m.html

Part 4: Assessment

Assessment strategy: Assessment will be via a written assignment.

The written assignment (2500 words) will be an industry standard report, that will challenge students to research the manufacturing process of a common material,

evaluate a complex assembly detail and conduct a risk assessment of that material leading to failure of degradation over time.

Resit strategy will be the same format as the first sit.

Assessment tasks:

Written Assignment (First Sit)
Description: Report (2500 words)
Weighting: 100 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2, MO3

Written Assignment (Resit)
Description: Report (2,500 words)
Weighting: 100 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2, MO3

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Façade Engineering [Frenchay] MSc 2024-25

Façade Engineering [Frenchay] MSc 2024-25

Façade Engineering [Frenchay] MSc 2023-24