

### MODULE SPECIFICATION

| Part 1: Information       |                                     |   |                    |   |  |  |
|---------------------------|-------------------------------------|---|--------------------|---|--|--|
| Module Title              | Facade Materials and Components     |   |                    |   |  |  |
| Module Code               | UBLMFK-15-M                         |   | Level              | Level 7                                   |  |  |
| For implementation from   | 2019-                               | 20                                      |                    |   |  |  |
| UWE Credit Rating         | 15                                  |   | ECTS Credit Rating | 7.5                                       |  |  |
| Faculty                   | Faculty of Environment & Technology |   | Field              | Architecture and the Built<br>Environment |  |  |
| Department                | FET [                               | ET Dept of Architecture & Built Environ |                    |   |  |  |
| Module type:              | Standard                            |   |                    |   |  |  |
| Pre-requisites            |                                     | None                                    |                    |   |  |  |
| Excluded Combinations     |                                     | None                                    |                    |   |  |  |
| Co- requisites            |                                     | Introduction to Facade Systems 2019-20  |                    |   |  |  |
| Module Entry requirements |                                     | None                                    |                    |   |  |  |

### Part 2: Description

**Overview**: Co-requisites : Students must have already completed or be currently enrolled in UBLLYS-15-M Introduction to Façade Systems. This requirement is compulsory for FT and PT students. Advisory for CPD students who only intend to take an individual module.

**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:

### STUDENT AND ACADEMIC SERVICES

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).

**Teaching and Learning Methods:** The module will be delivered by means of a series of lectures, seminars and tutorials.

Lectures and seminars will be used to 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.

#### Part 3: Assessment

Component A is assessed via an individual presentation on Façade Materials

Component B is assessed via an Essay (2,000 words, B1) which supports assimilation and reflection of taught material, with literature and application to real world examples and a FMEA exercise (B2) modelled around a realistic case study which a professional Façade Engineer could need to undertake in the real world.

Resit strategy will consist on working through a similar form of assessment.

| First Sit Components                | Final<br>Assessment | Element<br>weighting | Description   |
|-------------------------------------|---------------------|----------------------|---|
| Written Assignment -<br>Component B |                     | 37 %                 | Essay on Materials (2,000 words)  |
| Presentation - Component<br>A       |                     | 25 %                 | Individual Presentation on Practical Façade<br>Engineering (7-10 minutes) |
| Case Study - Component B            | $\checkmark$        | 38 %                 | FMEA Exercise   |
| Resit Components                    | Final<br>Assessment | Element<br>weighting | Description   |
| Written Assignment -<br>Component B |                     | 37 %                 | Essay on Materials (2,000 words)  |
| Presentation - Component<br>A       |                     | 25 %                 | Individual Presentation on Practical Façade<br>Engineering (7-10 minutes) |
| Case Study - Component B            | ✓                   | 38 %                 | FMEA Exercise   |

| Learning<br>Outcomes | On successful completion of this module students will achieve the following learning outcomes:   |    |    |  |  |  |  |  |
|----------------------|--|----|----|--|--|--|--|--|
|                      | Module Learning Outcomes   |    |    |  |  |  |  |  |
|                      | Analyse and identify the primary performance of the many façade materials and<br>their performance when used together and incorporated in complex assemblies |    |    |  |  |  |  |  |
|                      | Evaluate, specify and verify the performance of materials  |    |    |  |  |  |  |  |
|                      | Select materials and design of appropriate assembly, mounting and other detailing  |    |    |  |  |  |  |  |
|                      | Critically evaluate the design, manufacture and material specification of a complex facade through life performance  |    |    |  |  |  |  |  |
|                      | Demonstrate oral communication skills in a multi-disciplinary group<br>environment   |    |    |  |  |  |  |  |
| Contact<br>Hours     | Independent Study Hours:   |    |    |  |  |  |  |  |
|                      | Independent study/self-guided study 1  |    |    |  |  |  |  |  |
|                      | Total Independent Study Hours: 11   Scheduled Learning and Teaching Hours:   |    |    |  |  |  |  |  |
|                      | Face-to-face learning 32   |    |    |  |  |  |  |  |
|                      | Total Scheduled Learning and Teaching Hours:   | 32 | 32 |  |  |  |  |  |
|                      |  |    |    |  |  |  |  |  |
|                      | Hours to be allocated 15   |    |    |  |  |  |  |  |
|                      | Allocated Hours 15   |    |    |  |  |  |  |  |
| Reading<br>List      | The reading list for this module can be accessed via the following link:   |    |    |  |  |  |  |  |
|                      | https://uwe.rl.talis.com/modules/ublmfk-15-m.html  |    |    |  |  |  |  |  |

# Part 4: Teaching and Learning Methods

## Part 5: Contributes Towards

This module contributes towards the following programmes of study: