MODULE SPECIFICATION

Part 1: Information			
Module Title	Structural Integrity		
Module Code	UBLMGL-15-M	Level	Level 7
For implementation from	2020-21		
UWE Credit Rating	15	ECTS Credit Rating	7.5
Faculty	Faculty of Environment & Technology	Field	Architecture and the Built Environment
Department	FET Dept of Architecture & Built Environ		
Module type:	Standard		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	Introduction to Facade Systems 2020-21		
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 unit looks at the fundamentals of structural design and analysis, and the role it plays in façade design.

Outline Syllabus: This unit includes the following lectures and tutorials:

Introduction to design criteria including; loads acting on the façade, limit states, deflection and stress limits.

Structural systems, load paths and the response of the façade to loads.

The effect of jointing methods and composite sections will be considered.

Movement accommodation is a fundamental requirement of façade design. If movement is restrained, components may fail due to the stresses induced. What movement accommodation is required? How do different materials behave? How is the differential movement between the façade and the building structure accommodated?

In addition to lectures there are also tutorials going through various calculation exercises.

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, visiting speakers will be used to provide up to date material and context to the applications of the subject area.

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

Part 3: Assessment

Component A will be assessed via an exam. A series of structural analysis topics and structural calculations are provided that the students are expected to study before the module.

Component B is assessed via a Letter which is based on a real world practical activity which a professional Façade Engineer would need to undertake, modelled around realistic case studies.

Resit strategy is the same as the first sit.

First Sit Components	**Final Assessment**	**Element weighting**	**Description**
Examination (Online) - Component A		50 %	Online Exam 2 hr
Written Assignment - Component B		50 %	Letter
Resit Components	**Final Assessment**	**Element weighting**	**Description**
Examination (Online) - Component A		50 %	Online Exam 2 hr
Written Assignment - Component B		50 %	Letter

Part 4: Teaching and Learning Methods

Learning Outcomes

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

Module Learning Outcomes	**Reference**
Identify load paths in facades, and how applied loads may be resolved into load components and bending moments (Component A)	MO1
Specify the structural performance of a typical facade (Component A,B)	MO2
Differentiate between the serviceability and ultimate limit states, and the performance criteria associated with each (Component A,B)	MO3
Recognize and apply various methods for demonstrating structural integrity. (Component A,B)	MO4
Demonstrate an understanding of how a façade may be designed to accommodate movement both in the supporting structure and its own movement in response to changes in environmental conditions. (Component B)	MO5

Contact Hours

Independent Study Hours:

	Independent study/self-guided study	118
	Total Independent Study Hours:	118
	Scheduled Learning and Teaching Hours:	
	Face-to-face learning	32
	Total Scheduled Learning and Teaching Hours:	32
	Hours to be allocated	150
	Allocated Hours	150
Reading List	*The reading list for this module can be accessed via the following link:* https://uwe.rl.talis.com/modules/ublmgl-15-m.html	

Part 5: Contributes Towards
This module contributes towards the following programmes of study: