

#### MODULE DESCRIPTOR **Module Title** Digital Design Reference **SUM205** Version 5 Created April 2023 SCQF Level SCQF 11 June 2012 SCQF Points Approved 15 Amended **ECTS Points** 7.5 August 2023

#### **Aims of Module**

To provide the student with the ability to identify and appropriately apply best practice with regard to new and emerging working practices at the conceptual and detailing stages of a digital design based project.

### **Learning Outcomes for Module**

On completion of this module, students are expected to be able to:

- 1 Critically appraise and review new and emerging working practices in conceptual and detailed design in architecture, based upon parametric, generative, and digital paradigms.
- Apply current working practices in specialised research of building information modelling and digital generative design.
- Explore and evaluate innovative methods of procurement, specification and manufacturing using digital processes.

### **Indicative Module Content**

New and emerging trends in digital conceptual design, theory and practice; architectural conceptual design, including an historical and philosophical background; exploration of digital tools available at the conceptual and detail design stages; parametric modelling at the detail design stage; interoperability; design team collaboration, including a consideration of collaborative and interactive virtual design environments; building information modelling (BIM); project data modelling.

# **Module Delivery**

This module is primarily taught on campus. The module is delivered in taught on campus by lectures, interactive workshops, case study seminars and directed self-study. Learning is hybrid, web-based and digitised where necessary with support provided in workshops. Where this module is available as a CPD or short course, an online learning mode (OL) is adopted. The delivery is based upon self-directed learning from web-based materials. The delivery of this module will be backed by online support in the form of web-based topical workshops, case studies, moderated discussion forums and live chat sessions.

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Indicative Student Workload	Full Time	Part Time
Contact Hours	34	N/A
Non-Contact Hours	116	N/A
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	150	N/A
Actual Placement hours for professional, statutory or regulatory body		

# **ASSESSMENT PLAN**

If a major/minor model is used and box is ticked, % weightings below are indicative only.

# Component 1

Type: Coursework Weighting: 100% Outcomes Assessed: 1, 2, 3

A technical report that critically explores exercises in digital design provided by the brief, with at

Description: least one of the exercises brief and execution determined by the student identified during the

presentation of the module.

## **MODULE PERFORMANCE DESCRIPTOR**

## **Explanatory Text**

The overall module grade is based on 100% weighting of Component 1 CW. An overall minimum grade D is required to pass the module. Non-submission will result in an NS grade.

required to pass the module	s. Non-submission will result in all No grade.	
Module Grade	Minimum Requirements to achieve Module Grade:	
Α	A	
В	В	
С	С	
D	D	
E	E	
F	F	
NS	Non-submission of work by published deadline or non-attendance for examination	

Module Requirements	
Prerequisites for Module	None, in addition to course entry requirements.
Corequisites for module	None.
Precluded Modules	None.

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#### INDICATIVE BIBLIOGRAPHY

Tedeschi, A. 2014, AAD Algorithms-Aided Design: Parametric Strategies using Grasshopper, Le Penseur; First Edition edition (1 Oct. 2014), 978-8895315300

- Retsin, G. 2019, Discrete-reappraising the digital in architecture, John Wiley & Sons (22 Mar. 2019), 978-1119500346
- Tibbits, S. 2017, Autonomous Assembly: Designing for a New Era of Collective Construction: 87. John Wiley & Sons, 978-1119102359
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- 5 Carpo, M. The Alphabet and the algorithm, MIT press, 978-0262515801
- Steenson, MW. 2017, Architectural Intelligence: How Designers and Architects Created the Digital Landscape, MIT press, 978-0262037068
- 7 Agkathidis, A. 2017, Biomorphic structures, Architecture inspired by Nature, (form + technique), Laurence King Publishing, 978-1780679471
- 8 Figliola, A. Battisti, A. 2020, Post industrial robotics: Exploring informed architecture