Digital Technologies

Module Descriptor

Module Code: TEC4DIG

Version: 6.00

Status: Final

Date: 18/03/2021

Summary Module Details

Module Title: Digital Technologies

Module Leader: tbc

Module Mode: Supported online learning

Semester: Spring (UK)

Level: 4

Credits: 20

Contact & Study Hours

Learning Hours: 200

Directed Study Time: 90 hrs (45%)

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

Assessment Study Time: 60 hrs (30%)

Assessment Type

Coursework: 100%

Computer Marked Assessment: 0%

Self-directed Research Project: 0%

Portfolio: 0%

Module Summary

This module introduces students to the role of technology and data within the built environment and how it impacts on the roles within the property and construction profession. It starts to identify the digital literacies needed by professionals to meet the changing needs of clients and the industry as a whole. This enables the student to begin defining what role technology plays in their studies and in the workplace, and to evaluate the skills they need to develop.

Taken on which programmes

BSc (Hons) Building Control (C)

BSc (Hons) Building Surveying (C)

BSc (Hons) Construction Management (C)

BSc (Hons) Quantity Surveying (C)

BSc (Hons) Real Estate Management (C)

Core (C) or Elective (E)

Module Aims

This module aims to:

- Provide examples of the various digital tools and data environments used by surveyors and construction managers in their workplaces;

- Explain how these tools provide a "digital edge", where technology and physical resources combine to generate additional value and revenue for a business; and

- Demonstrate an understanding of the latest software and processes (for example, AutoCAD, Building Information Management – BIM), and the use of existing tools and methods that work well in practice.

Module Learning Outcomes

LO1.   Describe the digital tools and data environments used in the surveying and construction management professions.

LO2.   Outline the benefits and drawbacks of various technologies and processes in use.

LO3.   Illustrate and compare the use of both digital and analogue tools in the built environment, with an understanding of the digital literacies needed.

LO4.   Identify the added value and risks to a business that technology can provide.

Indicative Module Content

Module topics

- **Digital age: Past and Present**

  What is it, where it came from, and how did our world became software and data-centred? How much do we depend on software and data to inform insight and decisions? What contingencies do we have when it doesn't work? What checks and measures need to be in place to ensure the client receives the correct advice?

- **Digital Tools – Software and Hardware**

  An overview of current software applications and technology-dependent hardware used in surveying. Survey/measurement/valuation applications, virtual reality (VR) software, vector-based drawing packages (CAD), project management tools, hardware items, including laser measures, and use of thermal imaging cameras, 360° cameras, drones.

- **Modelling and Data environments**

  Introduction to the topic of data collaboration, environments and use of current modelling such as of Building Information Modelling and Management; the process and analysis of such environments, their relevance, strengths and weaknesses.

- **'Digital Darwinism', Digital transformation and Digital literacies**

  The ability of businesses and professionals to adapt to changing technology, how data and technology can inform both vendor services and client options. Examples of digital transformation in the built environment are introduced, with an analysis of the costs and benefits of each. Integral to this analysis is an understanding of the

individual skills needed to appropriately use and interpret the tools required in specific circumstances.

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

Overview of Summative Assessment

Module learning outcomes	Assessment	Word count or equivalent	Weighting
LO1, LO2	**Assessment 1** Coursework	900 word equivalency	30%
LO1, LO2, LO3, LO4	**Assessment 2** Coursework	2,100	70%

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

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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 website and is updated regularly to ensure materials are relevant and current.