Maintenance Management

Module Descriptor

Module Code: MAN7MMA

Version: 4.00

Status: Final

Date: 18/03/2021

Summary Module Details

Module Title: Maintenance Management

Module Leader: TBC

Module Mode: Supported online learning

Semester: Spring (UK)

Level: 7

Credits: 20

Learning Hours: 200

Contact & Study Hours

Directed Study Time: 60hrs (30%)

Self-directed Study Time: 70hrs (35%)

Assessment Study Time: 70hrs (35%)

Assessment Type

Coursework: 100%

Computer Marked Assessment: 0%

Self-directed Research Project: 0%

Portfolio: 0%

Module summary

This module aims to develop understanding of, and practice in, the skills associated with managing, planning and controlling the maintenance of buildings. It focuses on the skills required by the construction manager who is involved in buildings maintenance on a day to day basis. It will allow students to develop their understanding of the theory of both management and building technology from earlier modules and to apply these theories to practical situations.

Taken on which Programmes

MSc Construction Management (C)

Core (C) or Elective (E)

Module Aims

- Provide an overview of the way that maintenance organisations are structured and the needs of that structure to manage the maintenance of buildings.
- Develop existing knowledge in building construction, services and materials focusing on the maintenance and the management of buildings in the global environment.
- Integrate sustainable technologies and systems within the maintenance of buildings.
- Provide a foundation for the maintenance of the historic environment together with conserving that environment for future generations in the international arena.

Module Learning Outcomes

LO1. Critically evaluate the characteristics of various construction techniques and their effect on buildings, demonstrating a systematic understanding of building maintenance.

LO2. Demonstrate the capability to manage maintenance projects in a safe, ethical and sustainable manner in accordance with regulations and professional standards.

LO3. Investigate and critically evaluate arguments, assumptions, concepts and data; define problems and identify a range of solutions; and apply judgement when advising of potential solutions.

LO4. Communicate information, ideas, problems and solutions in a reasoned manner and in writing.

Indicative Module Content

Module topics

- **Building maintenance management**

  Classification of maintenance works; reasons for maintaining buildings. Preventative and planned maintenance, the essential nature of maintenance. Maintenance organisations, policies and documentation, maintenance activities, data collection, information management and collaborative data environments.

- **Common building defects**

  Causes of decay and deterioration; defects analysis, monitoring and remedial strategies.

- **Building defects in modern industrial buildings**

  Surveys, new construction, risks of innovation, human factors, principal categories of defects. Materials and building elements: roofs, cladding, rainscreen cladding, glazing, masonry, floors, doors, sealed joints. Services. Defect investigation.

- **Structural failures in traditionally built domestic buildings**

  Types of structural failure, stages of structural failure. Investigation and recording, methods of assessment and monitoring. Causes of failure: thermal, moisture, chemical influences, loadings. Underpinning. Historic buildings. Law and legislation.

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- **Operational maintenance**

  Regulation. Internal maintenance provision, external maintenance supply. Type of maintenance; planned preventative, condition monitoring systems, health and safety management systems. Sustainability applied to the maintenance of buildings. Types of maintenance contract, contract contents. Contract prequalification, contract documents; preliminaries, workmanship, standards and legislation, pricing schedules. Sustainable credentials of those carrying out maintenance work.

- **Cleaning buildings**

  Typical problems. The principal cleaning methods. Minimising risk. Published guidelines. Industry reaction. Environmental impact minimisation.

- **Introduction to conservation**

  The concept. Preserving historic buildings. Getting to know buildings, architectural style and layout, form of construction and historical development. Condition and potential reuse. Defining a philosophical approach. Devising defensible solutions. Economics of historic buildings.

- **Conservation plans and maintenance plans in connection with facilities management of historic buildings**

  Heritage management, facilities management. Maintenance management plans, conservation plans, management processes. Decision making; determining priorities, determining work content, general approach to a site. Conservation plans. Management plans.

- **Maintenance of a historic estate**

  Building maintenance policies, strategy, the policy as it relates to historic buildings. Building maintenance methodology: identifying requirements, reporting defects, inspections. Prioritisation and budgeting of maintenance. Procurement of maintenance; systems, selecting contractors. Standards of maintenance, workmanship and trade skills. Quality control of the maintenance function. Sustainability issues.

- **Dilapidations**

  The contract. The lease. Common law controls, the rules. Assessment of loss. Common law approach to the meaning of repair. The landlord's options. The schedule, the claim, fixtures and fittings.

- **Statistics**

  Collection of data, presentation of data, frequency distribution, statistics over time. Cumulative representation. The description of data, scatter spread and dispersion. Probability and expected outcomes, time series analysis.

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, LO3	**Assessment 1** Coursework	2,000	40%
LO1, LO2, LO3, LO4	**Assessment 2** Coursework	3,000	60%

Module Pass Mark (as a weighted average of all assessments): 50%

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 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.