

MODULE DESCRIPTOR

Module Title

Engineering Management

Reference	EN4107	Version	3
Created	April 2023	SCQF Level	SCQF 10
Approved	May 2020	SCQF Points	30
Amended	August 2023	ECTS Points	15

Aims of Module

To provide the student with: the fundamental understanding of business functions, strategy, management and asset management; the ability to critically apply quality management theory; and the key concepts for socially responsible management.

Learning Outcomes for Module

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

- 1 Illustrate understanding of business finance, accounting, and law for engineers.
- 2 Examine the purpose of ethical, inclusive and socially responsible management to an engineer's professional development within engineering projects.
- 3 Conceptualise environmental risk assessment and management processes in engineering projects, understanding relevant legal matters.
- 4 Examine the principles of operation management, quality management, quality assurance and international standards.
- 5 Critique the change process and be able to lead a change initiative in organisations that adopt an Asset Management approach.

Indicative Module Content

Introduction to business finance, accounting and law for engineers. Key concepts and standards in socially responsible management; risk governance (risk characterisation and communication); community relations and the legacy of infrastructure projects; building sustainable community relations; corporate ethics; understanding value chains; building value across the supply chain. Identification of process improvement strategies. Theoretical concepts of quality management and applications to organisational development and performance excellence. The way in which Asset Management is developed and implemented in organisations. The process of organisational change required when the Asset Management approach is adopted in organisations; issues and approaches to managing change; organisational change and culture; leading people through change. Content will be supported with case studies throughout, and students will be encouraged to make links to their own experiences and practices. Environmental Policy in the UK, the role of business leaders, stakeholders, NGO's, community leaders and government (Local Authority, National and International agendas); the regulatory framework (EPA 1990, EA 1995, Integrated Pollution Control, EIA Directive) and legal compliance; environmental risk management, environmental indicators. Classifying impact (environment, economic, social, political). Quantitative and qualitative approaches to environmental resources and environmental impacts. Environmental impact management and assessment techniques, Planning and decision-making in the project development process. Environmental Hazard and Risk Assessment Introductory overview, energy and sustainability, present energy sources, renewable energy sources. Energy utilisation, forms of energy Classification of impact of energy use by source, pollutant, scale (household, community, regional, global) An analysis of the scope and purpose of corporate ethics, examining what it is, why do it and, does it work? An examination of moral issues in business; why 'good' managers make bad ethical choices; case studies. An examination of the theoretical underpinning which supports ethical decision-making. Biases and prejudices in the workplace and towards consumers, under-represented groups, discrimination factors, inclusive culture of attitudes and behaviours, strategies to leverage equal inclusive messages, legal compliance.

Module Delivery

The module is delivered in Blended Learning mode using structured online learning materials/activities and directed study, facilitated by regular online tutor support. Workplace Mentor support and work-based learning activities will allow students to contextualise this learning to their own workplace. Face-to-face engagement occurs through annual induction sessions, employer work-site visits, and modular on-campus workshops

Indicative Student Workload

	Full Time	Part Time
Contact Hours	30	N/A
Non-Contact Hours	30	N/A
Placement/Work-Based Learning Experience [Notional] Hours	240	N/A
TOTAL	300	N/A
<i>Actual Placement hours for professional, statutory or regulatory body</i>	240	

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, 4, 5
 Description: E-portfolio including documentary evidence.

MODULE PERFORMANCE DESCRIPTOR**Explanatory Text**

Component 1 comprises 100% of the module grade. To pass the module, a D grade is required.

Module Grade	Minimum Requirements to achieve Module Grade:
A	A
B	B
C	C
D	D
E	E
F	F
NS	Non-submission of work by published deadline or non-attendance for examination

Module Requirements

Prerequisites for Module	Completion of Stage 3, SCQF Level 9, or equivalent.
Corequisites for module	None.
Precluded Modules	None.

INDICATIVE BIBLIOGRAPHY

- 1 VERTIGANS, S. and IDOWU, S. eds., 2017. Corporate Social Responsibility: Academic Insights and Impacts. New York, NY: Springer.
- 2 HOPKIN, P., 2017. Fundamentals of risk management: understanding, evaluating and implementing effective risk management. 4th ed. London: CIPD.
- 3 ATRILL, P., 2017. Accounting and finance for non-specialists. 10th ed. Harlow: Pearson Education.
- 4 GREASLEY A., 2013. Operation management. 3ed Edition, New York: Wiley.
- 5 O'CONNOR P.D.T., 2003. Practical Reliability Engineering. Chichester & NY: J Wiley & Sons.