

ES1C1-15 Business Management and Professional Skills

26/27

Department

School of Engineering

Level

Undergraduate Level 1

Module leader

Alireza Rezaei

Credit value

15

Module duration

24 weeks

Assessment

100% coursework

Study location

University of Warwick main campus, Coventry

Description

Introductory description

Business Management and Professional Skills

[Module web page](#)

Module aims

The aim of this module is to provide the students, with an appreciation of some of the practical problems and issues involved in competitively managing an engineering business. The module presents a systems view of the firm or business, consistent with many engineering models, where a collection of inputs are transformed into outputs which are valued by the customer. For the purposes of this module an engineering business is simply defined as a business that employs at least one engineer. The business could deliver a product or a service, it could be any size from a single consulting engineer to a global corporation and it can take a variety of legal forms from sole trader to public limited company.

The students will gain an appreciation of issues such as Risk, how organisations deal with Risk Management, Equality, Diversity & Inclusion as well as issues around contemporary issues Security Risk in the engineering sector.

Whilst developing commercial awareness allowing students to understand industry and the labour market, this module will also introduce careers and continuing professional development (CPD). As a tool to ensure active participation in career development and management allowing students to develop skills and knowledge needed to prepare for their graduate careers.

Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

Economics;

Development of economies; agriculture based; manufacturing based, service and knowledge based.

External economic influences on competitiveness including:

- Macroeconomics and its impact on business - economic activity, inflation, exchange rates and interest rates.
- Markets - nature & structure, perfect competition, imperfect competition, monopoly.
- Government – regulation / legislation, taxes / subsidies, industrial policy.
- Infrastructure - finance, transport network, business network (clusters), university-industry links.
- Internal competitiveness of the business in terms of price factors and non-price factors.

Structure of Industry;

Types of industry in terms of product, size, ownership, technology.

The changing face of industry - globalisation, consolidation; the knowledge base; information systems; e-commerce; regeneration; infrastructure.

The changing nature of business-to-business relationships and the impact of these on the nature of competition; joint ventures; partnering; alliances, supply chains and networks.

Different forms of business - sole trader, partnership, limited company, public limited company.

Introduction to business strategy and the role of functional strategies.

Ethics - an understanding of ethics associated with business and management activity.

Understanding organisations – organisation structure and theory; organisational differences between consulting engineers; contractors; subcontractors and suppliers.

Marketing;

Buyer behaviour - from that of the consumer/customer to the organisational purchasing role within the contractor or supplier.

The marketing mix - Product, Price, Place, Packaging and Promotion.

Marketing research and multi-media marketing. Sales forecasting techniques. Defining problems, collection of data, and analysis of findings. Development of e-commerce, electronic transference and its uses.

Marketing segmentation. Targeting and positioning. How can /should Contractors diversify?

Whole Life Cycle and the importance to a company of having a balanced portfolio of activities/services.

Introduction to Management Accounting and Costing;

Sources of finance for business and projects. Capital investment appraisal techniques.

Estimating costs and profits for one-off projects such as new products; civil projects;

constructions; engineering services. Estimation techniques. Sources of data. Break-even analysis.

Life cycle costing;

Estimating costs and profits in business. Costs for decision-making; nature of costs; marginal costing; throughput accounting. Allocation of overheads; standard costing, absorption costing; activity-based costing.

Managing costs – budgets and variance analysis.

EDI, Risk Management and & Security Students will be encouraged to consider aspects of Equality, Diversity, Inclusion, as well as issues such as Security risks for modern engineering organisations and consider how this affects engineering practice.

Professional Commitment and Institutional Membership. Competencies (IT skills; Reading, Note Taking and Research skills; Keeping a logbook and writing a reflective report; Writing and Presentation skills; Study skills; Exam skills; Development and Reflection skills; Sketching skills; Time Management skills). Diversity and Equality. Self-reflection. The module includes compulsory on-line courses as defined by the Department.

Learning outcomes

By the end of the module, students should be able to:

- Demonstrate knowledge of the theories of management with particular emphasis on contemporary management concepts, practices, security risks and ethical implications.
- Evaluate the positioning of a business within its market and economic environment and construct recommendations for its strategic development and managing risk.
- Explain how contemporary issues such as Equality, Diversity & Inclusivity (EDI) are crucial for engineering practice.
- Show knowledge and understanding of professional and ethical codes of conduct and associated responsibilities (related to own work/practice) as set out by professional engineering institutions.
- Review and analyse the process and importance of management accounting and costing.
- Demonstrate communication skills for identified work/practice and/or academic audiences.
- Demonstrate, plan and record self-learning and development as the foundation for career planning, lifelong learning and Continuous Professional Development (CPD) to enable EPA and inform professional practice.

Indicative reading list

[Reading lists can be found in Talis](#)

Subject specific skills

1. Knowledge and understanding of the need for a high level of professional and ethical conduct in engineering and the use of technical literature, other information sources including appropriate codes of practice and industry standards

2. Knowledge and understanding of risk issues, including health & safety, environmental and commercial risk, risk assessment and risk management techniques and an ability to evaluate commercial risk
3. Knowledge of professional codes of conduct, how ethical dilemmas can arise, relevant legal and contractual issues.

Transferable skills

1. Communicate (written and oral; to technical and non-technical audiences) and work with others
 2. Awareness of the nature of business and enterprise in the creation of economic and social value
 3. Overcome difficulties by employing skills, knowledge and understanding in a flexible manner
 4. Ability to formulate and operate within appropriate codes of conduct, when faced with an ethical issue
 5. Appreciation of the global dimensions of engineering, commerce and communication
 6. Be professional in their outlook, be capable of team working, be effective communicators, and be able to exercise responsibility and sound management approaches.
 7. Exercise initiative and personal responsibility, including time management, which may be as a team member or leader
-

Study

Study time

Type	Required
Lectures	21 sessions of 1 hour (14%)
Seminars	4 sessions of 1 hour (3%)
Tutorials	(0%)
External visits	4 sessions of 1 hour (3%)
Work-based learning	60 sessions of 1 hour (40%)
Online learning (independent)	10 sessions of 1 hour (7%)
Other activity	2 hours (1%)
Private study	49 hours (33%)
Total	150 hours

Private study description

49 hours of guided independent learning (including VLE use and support from Employer)

Other activity description

1x1 hour formative remote computer-based test, 1 hour oral presentation

Costs

No further costs have been identified for this module.

Assessment

You must pass all assessment components to pass the module.

Assessment group A1

	Weighting	Study time	Eligible for self-certification
Assessment component			
Reflective report with Logbook	60%		Yes (extension)
Reflective report (8 pages) with attached Learning Journal and evidence			

Reassessment component is the same

Assessment component

Work-based oral presentation	40%		No
Work-based company analysis oral presentation (10 minutes presentation, 5 minutes question)			

Reassessment component is the same

Feedback on assessment

- Individual feedback on work-based presentation.
 - Individual feedback on reflective report and attached logbook.
 - Support through advice and feedback hours.
-

Availability

Courses

Course availability information is based on the current academic year, so it may change.

This module is Core for:

- Year 1 of DESA-H221 Undergraduate Civil and Infrastructure Engineering (Non-integrated Degree Apprenticeship)