

Proposal Form for New or Revised Modules (MA1 - version 7 - April 2014)

| Approval information | |
|---|---|
| Approval Type | <input checked="" type="checkbox"/> Revised module <input type="checkbox"/> Discontinue module |
| Date of Introduction/Change | October 2018 |
| If new, does this module replace another? If so, enter module code and title: | |
| If revised/discontinued, please outline the rationale for the changes: | Revisions to teaching split to accommodate tutorial input. |
| Confirmation that affected departments have been consulted: | Changes were made in consultations between the School of Engineering and WMG. |

| Module Summary | |
|--------------------------------|--|
| 1. Module Code (if known) | ES194 |
| 2. Module Title | Introduction to Engineering Business Management |
| 3a. Lead department: | WMG |
| 3b. Teaching Split (if known): | 80% WMG 20% Engineering |
| 4. Name of module leader | Dr Ian Tuersley |
| 5. Level | UG: <input checked="" type="checkbox"/> Level 4 (Certificate) <input type="checkbox"/> Level 5 (Intermediate) <input type="checkbox"/> Level 6 (Honours) PG: <input type="checkbox"/> Level 7 (Masters) <input type="checkbox"/> Level 8 (Doctoral) See Guidance Notes for relationship to years of study |
| 6. Credit value(s) (CATS) | 15 |

| Module Summary | |
|--|---|
| 7. Principal Module Aims | <p>Most professional engineers apply their skills within a business organisation. A key objective of business is to be commercially successful. Hence it is important for engineers to appreciate the industrial and commercial environment in which businesses operate and recognise the requirements and constraints created by this environment, ultimately with a view to strategically managing the business to greater success.</p> <p>The aim of this module is to provide the engineering student 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.</p> |
| 8. Principal Learning Outcomes | <p>By the end of the module the student should be able to.....</p> <ul style="list-style-type: none"> • Appreciate the impact of economic factors on the competitive performance of a business. • Evaluate the positioning of a business within its market and economic environment and construct recommendations for its strategic development. • Understand, review and analyse the process and importance of strategic marketing. • Understand, review and analyse the process and importance of management accounting and costing. • Apply the concept of the Product Life Cycle and appreciate the importance to a company of having a balanced portfolio of products. • Develop written, graphical and oral communication skills. |
| 9. Timetabled Teaching Activities (summary) | <p>Lectures 27 hours, External visit up to 5 hours, Computer-based test 1 hour, Tutorials 2 hour , Examples Classes 1 hour, Revision Classes 2 x hour: Total 38 hours</p> |
| 10. Departmental Web-link | <p>www2.warwick.ac.uk/fac/sci/eng/eso/modules/year1/es194</p> |
| 11. Other essential notes | <p>Advice and feedback hours are available for answering questions on the lecture material and past examination questions, also via online web-forum based in module support web pages.</p> |

Module Summary**12. Assessment methods (summary)**

60% written examination (2 hours); 25% computer-based test; 10% company analysis report (1,000 words); 5% company analysis oral presentation.

For use by Strategic Planning and Analytics Office only - Do not fill in this section

| Level | JACS3 Code | Teaching Split |
|--------------|-------------------|------------------------------------|
| | | <i>If not provided in 3b above</i> |

| External Credit Level | | Scheme | |
|------------------------------|--|---------------|--|
| | | | |

| Module Context | | | | |
|--|---|------------|------------|---------|
| 13. Please list all departments involved in the teaching of this module. If taught by more than one department, please indicate percentage split. | | | | |
| WMG (80%) Engineering 20% | | | | |
| 14. Availability of module | | | | |
| Degree Code | Title | Study Year | C/OC/A/B/C | Credits |
| H113 | BEng Engineering | 1 | C | 15 |
| H114 | MEng Engineering | 1 | C | 15 |
| H161 | BEng Biomedical Systems Engineering | 1 | C | 15 |
| H163 | MEng Biomedical Systems Engineering | 1 | C | 15 |
| H216 | BEng Civil Engineering | 1 | C | 15 |
| H217 | MEng Civil Engineering | 1 | C | 15 |
| H315 | BEng Mechanical Engineering | 1 | C | 15 |
| H316 | MEng Mechanical Engineering | 1 | C | 15 |
| H335 | BEng Automotive Engineering | 1 | C | 15 |
| H336 | MEng Automotive Engineering | 1 | C | 15 |
| H605 | BEng Electrical and Electronic Engineering | 1 | C | 15 |
| H606 | MEng Electrical and Electronic Engineering | 1 | C | 15 |
| H63W | BEng Electronic Engineering | 1 | C | 15 |
| H63X | MEng Electronic Engineering | 1 | C | 15 |
| HH35 | BEng Systems Engineering | 1 | C | 15 |
| HH31 | MEng Systems Engineering | 1 | C | 15 |
| HH75 | BEng Manufacturing and Mechanical Engineering | 1 | C | 15 |
| HH76 | MEng Manufacturing and Mechanical Engineering | 1 | C | 15 |
| HN11 | BSc Engineering and Business Studies | 1 | C | 15 |
| HN15 | BEng Engineering Business Management | 1 | C | 15 |
| 15. Minimum number of registered students required for module to run | | | | |
| 1 (Core) | | | | |
| 16. Pre- and Post-Requisite Modules | | | | |
| None | | | | |

| Module Content and Teaching | |
|--|----|
| 17. Teaching and Learning Activities (<i>totals for module – please see guidance</i>) | |
| Module duration (weeks) | 10 |

| Module Content and Teaching | | |
|--|---|--------------------|
| Lectures | 27 x 1 hours | |
| Seminars | None | |
| Tutorials | 2 hour | |
| Project Supervision | None | |
| Demonstration | None | |
| Practical Class/Workshops | None | |
| Supervised time in studio/workshop | None | |
| Fieldwork | None | |
| External visits | Up to 5 hours (Industrial visit) | |
| Work based learning | None | |
| Placement | None | |
| Year abroad | None | |
| Other activity <i>(please describe): e.g. distance-learning, intensive weekend teaching etc.</i> | <ul style="list-style-type: none"> • 2 x 1 hour revision lectures (= 2 hours) • 1 hour examples class • 1 hour computer-based test • 112 hours of guided independent learning | |
| 18. Assessment Method (Standard) | | |
| Type of assessment | Length | % weighting |
| Written Examinations | 2 hours | 60 |
| Practical Examinations | | |
| Assessed essays/coursework | Multiple choice, computer-based test. | 25 |
| | Company Analysis Report 1,000 Words | 10 |
| | Company Analysis Oral Presentation as part of 1st Year tutorials | 5 |
| 18a. Final chronological assessment <i>(please see guidance)</i> | Company Analysis Oral Presentation | |

19. Methods for providing feedback on assessment.

- Feedback on computer-based test.
- Tutorial used for feedback on industrial visits (in Term 1), for report and presentation.
- Cohort-level feedback on final exam.
- Support through advice and feedback hours.
- Model solutions to past papers.

20. Outline Syllabus

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?

Product Life Cycle and the importance to a company of having a balanced portfolio of products.

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.

21. Illustrative Bibliography

The Business Environment, 7th Edition by Palmer, Publ. McGraw Hill 2011
 Principles and Practice of Marketing, 8th Edition by Jobber, Publ. McGraw Hill, 2016
 Foundations of Economics, 5th Edition by Begg, Publ. McGraw Hill 2013
 Operations and Supply Chain Management, 15th Edition by Jacobs, Chase, Publ. McGraw Hill 2017
 Accounting: Understanding and Practice, 4th Edition by Perks, Leiwyl Publ. McGraw Hill 2013
 (Chapters taken from all above texts constitute the custom core text book compiled for this course).

22. Learning outcomes

Successful completion of the module leads to the learning outcomes. The learning outcomes identify the knowledge, skills and attributes developed by the module.

Learning Outcomes should be presented in the format "By the end of the module students should be able to..." using the table at the end of the module approval form:

Resources**23. List any additional requirements and indicate the outcome of any discussions about these.**

N/A

Approval

24. Module leader's signature

Dr Ian Tuersley

25. Date of approval

20 March 2018

26. Name of Approving Committee (include minute reference if applicable)

School of Engineering and WMG Course and Module Approval Committee Minute 152-17/18

27. Chair of Committee's signature

Professor Gillian Cooke

28. Head of Department(s) Signature

Professor David Towers

| Examination Information | | |
|---|--|------------------------------------|
| A1. Name of examiner (if different from module leader) | | |
| A2. Indicate all available methods of assessment in the table below | | |
| % Examined | % Assessed by other methods | Length of examination paper |
| 60 | 25% Multiple choice, computer-based 10% Company Analysis Report 1,000 words 5% Company Analysis Oral Presentation | 2 hours |
| A3. Will this module be examined together with any other module (sectioned paper)? If so, please give details below. | | |
| No | | |
| A4. How many papers will the module be examined by? | <input checked="" type="checkbox"/> 1 paper <input type="checkbox"/> 2 papers | |
| A5. When would you wish the exam take place (e.g. Jan, April, Summer)? | January | |
| A6. Is reading time required? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |
| A7. Please specify any special exam timetable arrangements. | | |
| N/A | | |
| A8. Stationery requirements | | |
| No. of Answer books? | 1 | |
| Graph paper? | Yes | |
| Calculator? | Yes | |
| Any other special stationery requirements (e.g. Data books, tables etc)? | | |
| A9. Type of examination paper | | |

| Examination Information | |
|--|---|
| Seen? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Open Book? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Restricted? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| If restricted, please provide a list of permitted texts: | |

| LEARNING OUTCOMES | | |
|--|---|---|
| (By the end of the module the student should be able to....) | Which teaching and learning methods enable students to achieve this learning outcome? (reference activities in section 15) | Which summative assessment method(s) will measure the achievement of this learning outcome? (reference activities in section 16) |
| Appreciate the impact of economic factors on the competitive performance of a business. | Lectures and briefings; multiple choice test; Industrial visit presentation and report. | Multiple choice test; Industrial visit presentation and report; Examination in January. |
| Evaluate the positioning of a business within its market and economic environment and construct recommendations for its strategic development. | Lectures and briefings; multiple choice test; Industrial visit presentation and report. | Multiple choice test; Industrial visit presentation and report; Examination in January. |
| Understand, review and analyse the process and importance of strategic marketing. | Lectures and briefings; multiple choice test; Industrial visit presentation and report. | Multiple choice test; Industrial visit presentation and report; Examination in January. |
| Understand, review and analyse the process and importance of management accounting and costing. | Lectures and briefings; multiple choice test; Industrial visit presentation and report. | Multiple choice test; Industrial visit presentation and report; Examination in January. |
| Apply the concept of the Product Life Cycle and appreciate the importance to a company of having a balanced portfolio of products. | Lectures and briefings; multiple choice test; Industrial visit presentation and report. | Multiple choice test; Industrial visit presentation and report; Examination in January. |
| Develop written, graphical and oral communication skills. | Lectures and briefings; multiple choice test; Industrial visit presentation and report. | Industrial visit presentation and report; Examination in January. |