Undergraduate Services, Alliance Manchester Business School

New Course Template

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Course Title:	Sustainable Commercial Development
Course Code:	MCEL30102
Credits:	10
Course Coordinator:	tbc
Level:	6

Semester (1, 2 or full year): Semester 2

Course unit overview:

This unit is intended to provide an introduction to how sustainable commercial development affects the way in which engineering should be practiced.

Engineering is central to the well-being and economic development of every nation. Electrical and Electronic Engineers are responsible for providing fundamental services in the delivery of infrastructure as well as the manufacture of products synonymous with the modern world.

The challenge for many organisations is in finding robust ways of implementing sustainable commercial development at a practical level: addressing global challenges whilst remaining competitive on a global stage. Recognising that research, technical innovation, technical development and business skills must be understood nurtured and combined as precursors to the successful implementation of commercially sustainable solutions.

The unit provides an introduction to sustainability and sustainable organisations from a business perspective and develops the concepts of integration between elements of the organisation and the wider environment.

Aims:

The aim of this unit is to develop in EEE students an understanding of the fundamental principles of economical sustainability, environmental sustainability, social responsibility, ethical practice and their implications for commercial development.

The unit develops an understanding of mechanisms for change towards sustainable development in organisations so future engineers are equipped to play a leadership role within organisations. Emphasis is placed upon the relationship between management strategy, the pursuit of business and sustainable aims and objectives; and the benefits that arise for various stakeholder groups.

Learning outcomes:

Knowledge and understanding

A1 Demonstrate knowledge of key business and sustainable development principles
A2 Demonstrate knowledge of the "three pillars" model of sustainable development, identifying, integrating and balancing social, environmental, economic and ethical considerations
A3 Demonstrate understanding of global challenges, and an awareness of their impact on industry

Intellectual skills

B1 Appreciate and critically evaluate and apply a whole lifecycle perspective to analysis of a scenario, predicting both short term and long term consequences
B2 Appreciate the changing environment in which businesses operate and the dynamic relationship between an organisation and its environment

B3 Apply appropriate concepts, models, frameworks, tools and techniques which facilitate the evaluation and development of sustainability in business

Practical skills
C1 Develop and apply problem solving skills
C2 Communicate effectively in presenting work in a professionally written report
C3 Research and critically analyse information from published literature and internet sources

Transferable skills and personal qualities
D1 Develop time management skills
D2 Demonstrate the ability to work collaboratively and effectively within a group in workshops
D3 Develop, analyse, structure and communicate information both written and verbally

Employability skills:

Employers frequently report that while students are knowledgeable about their subject area they lack various non-technical skills such as for example: commercial awareness, communication skills (written and verbal) and team working skills.

The course attempts to give students the opportunity to develop those skills by providing opportunities for team work, finding and compiling information in the form of an individual written report and getting students thinking about the commercial aspects of their subject area.

Syllabus/Course content:

The unit provides an introduction to understanding sustainable commercial development in a professional context. A combination of lectures and group activities enable students to learn both the basic theory of sustainable development principles, business models and understand its application in a professional context.

Where possible, examples are drawn from real life scenarios and guest lecturers from EEE are involved to introduce a range of different subject perspectives.

Interactive lectures and structured group activities/workshops are used to apply theoretical concepts: equipping students with sustainable commercial development literacy and competencies, enabling them to understand and contribute to the social, environmental, economic and ethical responsibilities of potential future employers ranging from large engineering and consultancy companies to NGOs.

Teaching and learning methods:

Lectures (whole cohort) will be used to introduce sustainable development concepts and principles. Guest lecturers from the School of EEE are invited to provide in depth technical or industrial insight into the topics.

Interactive workshops will be used to apply theoretical concepts and give students the opportunity to develop practical and transferable skills through participation and contribution to group activities.

Assessment methods:

Formative assessment:

- Sustainable Development Principles (Blackboard Quiz)

Summative Assessment:

- Coursework (100%) - Individual Report 3,000 words (Week 12)

Feedback methods (to students):

Immediate feedback is available regarding understanding of basic principles of sustainable commercial development upon completing the formative quiz in blackboard. The test can be taken unlimited number of times.
Attending lectures, joining discussions about case studies and doing short work tasks set within the lecture session.
Your lecturer may provide brief replies to your e-mailed enquiry, or may arrange to meet immediately before, following or during a scheduled class session.
Your lecturer may feedback messages to the whole class via Blackboard if the point that you have raised could be of benefit to the whole class.
It is your responsibility to check blackboard regularly.

Pre/co-requisites:

None

Additional requisites:

None

Academic programmes that course is available to:

MEng/BEng Electrical and Electronic Engineering
MEng/BEng Electronic Engineering
MEng/BEng Mechatronic Engineering

Recommended reading:

Capon C, 2009, Understanding the Business Environment, FT Prentice Hall

Mulder K, 2006, Sustainable Development for Engineers: A Handbook and Resource Guide, Greenleaf Publishing Ltd. (ISBN-10: 1874719195)

Rogers PP, Jalal KF, Boyd JA, 2012, An Introduction to Sustainable Development, Routledge

Tidd J, Besant J, 2009, Managing Innovation: Integrating Technological, Market and Organizational Change, Wiley

Allenby BR, 2012, The Theory and Practice of Sustainable Engineering, Pearson (Prentice Hall)

Ashford N, Hall R, 2011, Technology, Globalization, and Sustainable Development: Transforming the Industrial State, Yale University Press

Azapagic, A, Perdan, S, 2011, Sustainable Development in Practice: Case Studies for Engineers and Scientists, Wiley

Rainey D, 2007, Sustainable Business Development: Inventing the Future through Strategy, Innovation and Leadership, Cambridge University Press

Swamidass P, 2016, Engineering Entrepreneurship from Idea to Business Plan: A Guide for Innovative Engineers and Scientists, Cambridge University Press

Rulkens P, 2018, How Successful Engineers become Great Business Leaders, Business Expert Press

The unit will also draw on relevant journal articles

Scheduled activity hours:

Lectures – 14 hours
Workshops - 6 hours

Independent and group study hours:

80 hours

Additional notes:

Unit co-ordinator yet to be appointed – recruitment underway