ES101-5 Introduction to Engineering: Professionalism and Practice

22/23

Department
School of Engineering
Level
Undergraduate Level 1
Module leader
Nigel Denton
Credit value
5
Module duration
24 weeks
Assessment
100% coursework
Study location
University of Warwick main campus, Coventry

Description

Introductory description

Introduction to the module
Getting to know the Engineering Disciplines (Engineering, Civil, Electrical, Electrical and Electronic, Mechanical, Manufacturing, Automotive, Systems). Invited speakers from the Industry will provide insight to each discipline.
Career pathways (preparing for internships and future employment).
Engineering ethics.
Health and Safety.
Professional Commitment and Institutional Membership.
Skills (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.

The module includes compulsory on-line courses as defined by the Department.

Module web page

Module aims

The module aims to inform students in their choice of engineering discipline and on what it means to be an Engineer. Students may have already made their decision on a discipline (or strongly decide to pursue general Engineering); therefore, this module will allow them to be sure they made the right decision. The module provides the students with essential tools for studies in engineering, such as communication skills, professionalism and ethics and prepares them for internships and future employment.
Furthermore, the module informs engineering students about the UK-SPEC (UK-Standard for Professional Engineering Competence) which is the cornerstone of degree accreditation, continuing professional development (CPD), and eventual professional registration.
Overall the aim of this module is to induct engineers into their degree, and show them that everything they are learning can be considered to support their development.

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.

Note: some of the topics below are delivered virtually (by use of VLE) and will be sequenced to match the students' learning and provide progression throughout the year.

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Learning outcomes

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

- 1. Identify what it means to be an Engineer and being a part of the engineering community through exposure to Engineers coming from the Industry, academics of the Engineering department, recent graduate students, and fellow undergraduate students.
- 2. Understand the focus of each Engineering Discipline and then be able to make an informed choice on a direction of study.
- 3. Understand each of the Engineering Disciplines, the systems approach of the School of Engineering and how each of the Disciplines contribute to multi-disciplinary problems.

- 4. Produce professional, stylish and informative pieces of work which demonstrate their skills, experience and education
- 5. Plan self-learning and improve performance as the foundation for lifelong learning (CPD

Indicative reading list

QAA 2015 Engineering Benchmark Statement ~ what is expected to be delivered and achieved in an engineering degree.
UK-SPEC Published by the Engineering Council UK ~ guidance on what makes a graduate Chartered Engineer.
Joint Board of Moderators Guidance on Graduate Requirements ~ Guidance on how to interpret UK-SPEC for Civil Engineering.
Institution of Mechanical Engineers Guidance on Graduate Requirements ~ Guidance on how to interpret UK-SPEC for IMechE accedited degrees is in Appendix 2.
Institution of Engineering and Technology Guidance on Graduate Requirements ~ Guidance on how to interpret UK-SPEC for IET (formerly IEE) accredited degrees.
Engineering Ethics: Concepts and Cases. 2013. ISBN-13: 978-1133934684.
Ethics in Engineering Practice and Research. 2012. ISBN 13:9781107668478

Subject specific skills

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.
Knowledge of professional codes of conduct, how ethical dilemmas can arise, relevant legal and contractual issues.

Transferable skills

Plan self-learning and improve performance, as the foundation for lifelong learning/CPD
Communicate (written and oral; to technical and non-technical audiences) and work with others
Ability to formulate and operate within appropriate codes of conduct, when faced with an ethical issue

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Study

Study time

Type	Required
Lectures	7 sessions of 1 hour (14%)
Seminars	3 sessions of 1 hour (6%)
Tutorials	3 sessions of 1 hour (6%)
Total	50 hours

Type	Required
Other activity	12 hours (24%)
Private study	25 hours (50%)
Total	50 hours

Private study description

25 hours of guided independent learning (including VLE use)

Other activity description

4x3 hours on-line courses as defined by the department

Costs

No further costs have been identified for this module.

Assessment

You must pass all assessment components to pass the module.

Assessment group A3

	Weighting	Study time
CV and Personal Statement	30%	
'My Career Path' Reflective Report (3 pages) 3 PAGE REFLECTIVE REPORT	30%	
Health and Safety online course Moodle online course	10%	
Online Ethics course Moodle Ethics course	10%	
Matlab Online Course MATLAB ONLINE COURSE	10%	
Plagiarism Online Course Moodle online course	10%	

Feedback on assessment

Individual feedback will be provided on CV and personal statement. Advice and feedback hours

with Tutors will be used to provide feedback on the reflective report.

Availability

Courses

This module is Core for:

- Year 1 of UESA-H335 BEng Automotive Engineering
- Year 1 of UESA-H161 BEng Biomedical Systems Engineering
- Year 1 of UESA-H216 BEng Civil Engineering
- Year 1 of UESA-H63W BEng Electronic Engineering
- Year 1 of UESA-H113 BEng Engineering
- Year 1 of UESA-HN15 BEng Engineering Business Management
- Year 1 of UESA-HH75 BEng Manufacturing and Mechanical Engineering
- Year 1 of UESA-H315 BEng Mechanical Engineering
- Year 1 of UESA-HH35 BEng Systems Engineering
- Year 1 of UESA-HN11 BSc Engineering and Business Studies
- Year 1 of UESA-H336 MEng Automotive Engineering
- Year 1 of UESA-H163 MEng Biomedical Systems Engineering
- Year 1 of UESA-H217 MEng Civil Engineering
- Year 1 of UESA-H63X MEng Electronic Engineering
- Year 1 of UESA-H114 MEng Engineering
- Year 1 of UESA-HH76 MEng Manufacturing and Mechanical Engineering
- Year 1 of UESA-H316 MEng Mechanical Engineering
- UESA-HH31 MEng Systems Engineering
    - Year 1 of HH31 Systems Engineering
    - Year 1 of HH35 Systems Engineering
- Year 1 of UESA-H605 Undergraduate Electrical and Electronic Engineering
- Year 1 of UESA-H606 Undergraduate Electrical and Electronic Engineering MEng