



Industrial Studies for
Incorporated Engineers

EIS-1-721

<http://blackboard.sbu.ac.uk/>

Engineering, Science and the
Built Environment

2008-09

become what you want to be

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1. UNIT DETAILS

| | |
|---|---|
| Unit Title: | Industrial Studies for Incorporated Engineers |
| Unit Level: | S |
| Unit Reference Number: | EIS-S-721 |
| Credit Value: | One |
| Student Study Hours: | 150 |
| Contact Hours: | 12 hours lectures, 12 hours workshop (HNC1), 24 hours lectures, 24 hours workshops (others) |
| Private Study Hours: | 126 hours (part-time), 102 hours (full-time), individually and in teams |
| Pre-requisite Learning (If applicable): | None |
| Co-requisite Units (If applicable): | None |
| Course(s): | Higher National Certificate in Electrical and Electronic Engineering Higher National Diploma in Electrical and Electronic Engineering Foundation Degree in Power Distribution |
| Year and Semester | 2008-09, Semester 1 |
| Unit Coordinator: | Kate Viscardi |
| UC Contact Details (Tel, Email, Room) | 020 7815 7505; Room T402, email via Blackboard site or viscark@lsbu.ac.uk |
| Teaching Team & Contact Details (If applicable): | Kate Viscardi as above, Dr Shuwo Chen, email via Blackboard Dr Najib Hamlaoui, email via Blackboard |
| Subject Area: | Engineering |
| Summary of Assessment Method: | 60% Coursework, 20% Report, 20% Presentation |

2. SHORT DESCRIPTION

This unit introduces the industrial and commercial context within which engineers operate, with particular reference to the importance of the market and innovation. The unit is designed to help you develop the communication skills needed in employment, from working as a member of a team to an introduction to published Standards. Assessment includes the requirement to demonstrate competence in basic skills.

3. AIMS OF THE UNIT

This unit is designed to help students develop the contextual skills needed by incorporated engineers to enable them to make full use of their technical knowledge, focussing on:

- understanding the implications of legal requirements
- Health and Safety issues
- developing technical-communications, IT, report writing and team-working skills
- developing skills in project planning and management
- undertaking self-managed practical projects
- developing awareness of the innovation process and problems associated with the design, production and marketing of new products

4. LEARNING OUTCOMES

4.1 Knowledge and Understanding

Students should:

Have internalised good practice in following Health and Safety requirements

Understand that engineering activities are bounded by a wide range of legal requirements.

Understand the importance of formal English in engineering communications.

Understand the importance of keeping contemporaneous records of individual work and team meetings.

Understand the importance of roles within teams and of good communications between team members.

Understand the importance of setting and keeping to targets in achieving overall aims.

Know how to draw up a basic Gantt chart.

Understand the importance of working to standards.

Know how to use British Standards Online to find published Standards.

Have a basic understanding of the process of innovation.

Understand the importance of using authoritative sources in undertaking background research.

Have a basic understanding of desk research in marketing, using packages available via LSBU (Mintel and Keynote).

Have a basic understanding of the economic and social context of engineering activities.

4.2 Intellectual Skills

Students should:

Have an understanding of the wider context in which incorporated engineers operate.

Understand the importance of following procedures.

Understand the fundamental importance of avoiding plagiarism in academic and professional work.

Be able to find and apply relevant background information to a topic.

Understand the key features to be included in a business report.

Understand the importance of using authoritative sources in background research.

Understand the importance of keeping records.

Understand the importance of working to standards and using published Standards.

Understand the top-level considerations that have to be taken into account in planning a project.

Understand the top-level factors involved in the process of innovation.

Know the main factors that can contribute to successful team working and those that can jeopardise it.

4.3 Practical Skills

Students should:

Follow good Health and Safety practice at all times.

Be able to communicate information via email, written reports and in person.

Be able to draw up a bibliography, reference list and cite references in text.

Be able to keep an individual log book and contribute to minutes of meetings.

Be able to draw up a basic project plan using a Gantt chart.

Be able to prepare visual materials and make an oral presentation to an audience.

Be able to use published material to find relevant information.

Be able to use on-line information sources to find relevant information.

Be able to select appropriate information when faced with an over-supply.

Be able to write up information in a report.

Have developed skills in team working and be aware of strategies to help ensure success in team projects.

4.4 Transferable Skills

Health and Safety.

Use of formal English.

Good practice in using email.

Report-writing.

Understanding of references, bibliographies and citations.

Keeping a log book.

Basic project plan using a Gantt chart.

Presentation preparation and delivery.

Use of published sources.

Use of on-line information sources.

Information selection and handling.

Team-working.

Your notes – what do you particularly want to achieve from this unit?:

5. ASSESSMENT OF THE UNIT

Coursework total **60%**

Competence will be recorded on short tests covering different aspects of the unit's coverage. Marking will be on the basis of Achieved/Not Yet Achieved, and failed elements may be resubmitted until competence is achieved. The mark will be determined by how many attempts are made before competence is achieved:

| | 1 st attempt | 2 nd attempt | 3 rd & later attempts |
|-------------------------------|-------------------------|-------------------------|----------------------------------|
| Using email | 5% | 3% | 1% |
| Using spreadsheets | 5% | 3% | 1% |
| Producing a Gantt chart | 5% | 3% | 1% |
| Report Structure | 5% | 3% | 1% |
| Citing sources (on-line test) | 5% | 3% | 1% |

Using Library & Information Services resources (on-line test) 10%

Logbook 25%

End-of-Unit

Written report (individual contribution): **20%**

Presentation (individual and team performance): **20%**

Higher National students will report and present on a product development exercise. FdEng students will report and present on their industrial training and wider issues associated with it (e.g. Health and Safety)

MARKETING RESEARCH SURVEYS

There are strict university rules governing the collection of data by interviewing people or handing-out questionnaires. There are also issues of personal safety for you and data privacy for your subjects. There are plenty of sources of real information about markets via university portals. In any case, organisations only do direct research when it is the only way to find out what they want to know: they start with secondary sources and so must you. You are not absolutely forbidden from collecting information direct from people but you **must** consult Kate Viscardi first. **The penalty for ignoring this is automatic failure of the unit.** Also, when you report your findings, you must not create mock data. Any reports of direct surveys must be accompanied by a signed statement of approval from Kate Viscardi, or the whole team will fail.

6. FEEDBACK

Feedback will normally be given immediately after the submission of a competence element for assessment. Logbooks will be marked in class towards the end of the unit. You are urged to collect your reports and presentation feedback sheets after the end of the unit.

7. INTRODUCTION TO STUDYING THE UNIT

7.1 Overview of the Main Content

Health and Safety.

Functions within engineering organisations.

The legal context.

Standards and their use in engineering.

Record keeping.

Written communications.

Using information sources, referencing, citations and bibliographies.

The process of innovation and new product development.

Project Planning.

Team working.

Understanding markets.

Giving presentations.

FdEng students will attend training courses at an industrial partner (EDF)

7.2 Overview of Types of Classes

The classes are lectures and computer workshops. The latter are student-centred, with achievement of competence in basic skills the first priority. Later in the unit the students will work in teams to prepare their reports and presentations. Higher National students will develop a concept and investigate the market for a product based on the type of electronic circuit to be developed in Engineering Applications. The FdEng students will explore the wider background to their training courses.

7.3 Importance of Student Self-Managed Learning Time

Some self-managed learning time should be used for team meetings. It is important to arrange a time, convenient for the whole team, when you can have regular meetings. Make sure all the members of the team have each other's contact details so you can keep in touch. Records of meetings should be kept in a team minute book: a small exercise book is good for this. Email is likely to be particularly important for part-time students, whose only opportunity for team meetings is over lunch on a very busy day.

Self-managed learning time will be needed to support all the work on the unit. Regardless of the type of work undertaken, e.g. internet searches or product design, self-managed work must be **recorded in your logbook**. As well as being a comprehensive record of your work, your logbook will be useful to you in team meetings and discussions with staff.

The Blackboard site for this unit contains a lot of information and should be consulted at least once a week. This site can also be used to keep in touch with fellow students and staff. The "Group" facility is particularly useful in the team work for this unit.

You should use some of your independent learning time to work through the core reading for this unit. 'Plain English' (Collinson, latest edition) contains exercises and examples that are of value to anyone, no matter how good their existing standard of English. Fluent written English is a skill which must be actively maintained, and it is essential to any professional engineer.

7.4 Employability

Enhancing employability is one of the key themes of this unit. The experiences of team-working and giving presentations are likely to be of particular value when seeking employment. The FdEng programme has been developed in conjunction with EDF and part-time FdEng students are required to be employed by EDF or a similar organisation.

8. THE PROGRAMME OF TEACHING, LEARNING AND ASSESSMENT

Lectures

| | |
|----------|--|
| Week 1 | Introduction, Health and Safety |
| Week 2 | The Industrial Context: the importance of Standards within Engineering |
| Week 3 | Communications: Interpersonal, non-verbal and verbal communication |
| Week 4 | Communications: Standards for Logbooks |
| Week 5 | Communications: Standards for Reports |
| Week 6 | Communications: Assessments and Examinations |
| Week 7 | Communications: Library and Information Services |
| [Week 7] | Phase Tests, no lecture] |
| Week 8 | Communications: Planning and Project Management |
| Week 9 | The Industrial Context: Marketing and Product Design |
| Week 10 | The Industrial Context: Legislation |
| Week 11 | Communications: Presentations |
| Week 12 | Summary and Overview |

Workshops

| | |
|--------------|--|
| Weeks 1 – 2 | Introduction to IT resources: Using Blackboard, setting up email accounts, using email, BS Online |
| Week 3 | IT Skills: spreadsheets and graphical representation of data |
| Week 4 | IT Skills: email, word processing and using checkers |
| Week 5 | Introduction to team working task, teams formation |
| Week 6 | Library and Information Services test |
| [Week 7] | Phase Tests] |
| Weeks 8 – 13 | Team working on product development exercise or background to training courses; IT Skills: tools for report production and presentations |

The deadlines for the first attempt* at the competence tests are:

| | |
|--|---------------|
| Using email | end of Week 5 |
| Using spreadsheets | end of Week 5 |
| Citing sources (on-line test) | end of Week 8 |
| Gantt chart (assessed in workshops) | Week 9 |
| Report Structure (assessed in workshops) | Week 10 |

**if you are unsuccessful at your first attempt you may take your feedback into account and resubmit your test as often as needed, until you demonstrate competence, but no later than the end of Week 12*

Other Assessment deadlines:

| | |
|---|-----------------------|
| Library and Learning Resources (on-line test) | end of Week 8 |
| Logbooks (assessed in workshops) | Weeks 10 - 12 |
| Presentations + Report Hand-in | scheduled examination |

9. LEARNING RESOURCES

9.1 Core Materials

Any English dictionary (containing definitions, not translations).

Collinson, D et al. (1992) *Plain English* 2nd ed. Bucks: Open University Press

Self-study book to help develop skills in written communications: emphasis on engineering. Or

Cutts, M. (1995) *The Plain English Guide: how to write clearly and communicate better.*

Oxford: Oxford University Press.

Or similar publications: please use the Library to identify the book you find most accessible and then purchase your own copy.

CLSD – Library and Information Service (2007) *Help Sheet 30 How to do Your Referencing Using the Harvard System*: London: London South Bank University

[Online] Available from: <http://www.lisa.lsbu.ac.uk/helpsheets/hs30.pdf> (accessed 25th January 2008)

CLSD – Library and Information Service (2008) *Help Sheet 28 How to do Your Referencing (5): Numeric Style* London: London South Bank University [Online]

Available from: <http://www.lisa.lsbu.ac.uk/helpsheets/hs28.pdf> (accessed 25th August 2008)

The University has licences for the following subscription services, which are accessible via the LIS homepage:

British Standards Online

Key Note

Mintel

Other course materials will be provided via the Blackboard learning environment, including information on plagiarism, planning, report-writing and giving presentations. The Blackboard site for Industrial Studies for Incorporated Engineers contains essential materials and is updated frequently. Please check it at least once a week, preferably more often, and use it to communicate with fellow team members, other students, and staff. <http://blackboard.lsbu.ac.uk/webapps/portal/frameset.jsp>

9.2 Optional Materials

LIS Helpsheets – these cover a wide range of topics and are very useful

Any quality newspaper – scan the finance and economics pages for news about engineering companies and innovations.