MODULE **DESCRIPTOR**

MODULE TITLE	Engineering, Research and Academic Skills		
MODULE CODE	EL1904 (L4)	CREDIT VALUE	20 UK CREDITS / 10 ECTS
SCHOOL	SCHOOL OF SCIENCES		

MODULE **AIMS**

•To introduce students into Engineering and Technology with Emphasis on Electrical, Electronic and Computer Engineering. Students should be able to understand the multi-disciplinary aspects of enginering and how different disciplines come together in Industrial settings.
•To provide students with basic computing skills and introduce them into various engineering design principles.
•To cultivate teamwork.
•To help students improve their ability to communicate in an academic English-speaking environment with regards to general and technical English vocabulary use and effective grammar use
•To teach students how to research a topic, write a technical report and give a technical presentation in English

MODULE **CONTENT**

Indicative syllabus content:

Introduction to Engineering and Technology
•Review of the various Engineering Disciplines
•Specializations of Electrical, Electronic and Computer Engineering
•Multi-disciplinary aspects of Engineering
•Industrial visits

Academic Skills, Research Skills, Report Writing, Technical Presentations
•Note-taking and Summarizing
•Writing: planning, structure, style, punctuation
•Referencing (Harvard and IEEE Styles), plagiarism and academic offences.
•Finding, evaluating and presenting information (including report/essay format, refereed articles, opinion pieces, written and verbal presentation)
•Research and discussion on contemporary issues affecting users of technology and technological trends, including ethical/legal issues
•Familiarize with standard productivity tools (e.g. use of a Word Processor and Spreadsheet tool for creating graphs, tables, diagrams and academic reports)

General and Technical English
•Reading Comprehension
•Listening and Speaking
•Vocabulary
•Grammar
•Writing
•English Engineering Terminology

Engineering Design
•Introduce the various engineering design principles and present the main Computer Aided Design (CAD) tools

Employability
•CV, Cover letter, Job Searching

Teamwork
•Teamwork, planning, monitoring and control
•Meetings, minutes and actions management

INTENDED **LEARNING OUTCOMES**

On successful completion of this module a student will be able to:

1.	Recognize the various Engineering Professions and Specializations and understand the multidisciplinary concept used on Industrial Settings
2.	Use information sources and available technology to research a technology-related subject
3.	Develop the ability to work in teams and to communicate effectively in an Academic English Environment
4.	Prepare and present a written and oral technical presentation
5.	Understand the principles of Engineering Design in Industrial Settings

TEACHING METHODS

The module will develop various technical, academic, research and communication skills that students can expect to use throughout their course.

In the beginning of the module, lectures will be used to Introduce the various Engineering Professions/Disciplines and how these professions cooperate in typical Industrial Settings. Emphasis will be given to Specializations that relate to Electrical, Electronic and Computer Engineering. The multidisciplinary concept of today's Industry will be presented. Teaching will include a series of Industrial visits and Guest Lectures from the Industry so that students start developing an "Engineering Mind".
During this module, students will concentrate on developing the skills required for science and technology practitioners. In particular, emphasis will be placed on locating sources of information, evaluation of information found (quality and credibility), note taking, report writing and verbal communication skills.
During the latter part of the module, emphasis will be placed on enabling students to gain experience of working within a small group for the production of a report supported with a presentation on a given topic (e.g. relating to the IT industry.)
Tutorials will be used to develop skills in group-work and discussion and to analyse written material, which may range from articles, discussion pieces, exam papers, student answers etc.
Students will widen their range of vocabulary, improve their accuracy and clarity in written language, improve their ability to select language appropriate to audience and register in both written and spoken form, increase their comprehension of spoken and written English, and develop their independent study skills for further language progress.
The combination of Scheduled Learning and Teaching Activities and Guided Independent Study will ensure that students have access to a wide range of learning and teaching resources, both inside and outside the classroom, thereby helping them to achieve success on the module, and develop independent study habits.
Students will undertake both individual and group exercises in all four language skills. Tasks will include: text-based study, writing of various types including e-mails, short essays, and development of oral and aural competence through, amongst others, task-based activities, discussion, role-play or presentations.
Assessment consists of two components:
•Students will work in groups to describe the Engineering Process in an Industrial Environment of their choice (from the industrial visits they will make during the module). They will work in groups to visit the Industrial Setting, understand the operations, make notes, discuss and produce technical reports. The technical reports need to include state of the art information from the literature. Finally, students will give an oral presentation to the rest of the class.
•Written Exam in English

ASSESSMENT METHODS

This module is assessed through a portfolio and a written assessment.