## Module Details

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| Module Title | Information and Communications Technologies |
| Module Code | ENB3001-B |
| Academic Year | 2022/3 |
| Credits | 20 |
| School | Department of Mechanical and Energy Systems Engineering |
| FHEQ Level | RQF Level 3 |

## Contact Hours

| Type | Hours |
|---|---|
| Lectures | 72 |
| Directed Study | 128 |

## Availability

| Occurrence | Location / Period |
|---|---|
| BDA | University of Bradford / Academic Year |

## Module Aims

To provide students with an appreciation of the breadth of the engineering profession and develop skills to successfully deploy the techniques and technologies used to generate and communicate engineering knowledge to a range of audiences.

## Outline Syllabus

Information technologies for engineers, Software Applications for Engineers. Information systems and environments, knowledge in the use of engineering spreadsheets (data entry, complex formulas, creating and interpreting graphs, performing analysis and problem solving).
Communication Techniques and professional skills, Reading Skills: Effective reading, note taking, library search and referencing, Oral Communications: Group communications, presenting information using notes and visual aids.
Personal Study Skills: Time management, examination techniques, planning your career, evaluation, prioritising and decision making

Written Communications: Technical report writing, essay writing, plagiarism.
Inter-personal Skills: Team work, leadership, networking, problem solving.

The Engineering Profession: The engineering profession, engineering disciplines, Keynote lectures on: Civil, Mechanical, Medical, Chemical engineering,
Placement and student opportunities

## Learning Outcomes

| Outcome Number | Description |
|---|---|
| 01 | Be proficient in the use of engineering tools and technologies. Describe of the key skills required for successful communication. Describe the range of activities commonly encountered in the engineering profession. |
| 02 | Use information and communication techniques practiced by engineers. |
| 03 | IT skills, systematic problem solving, communication, teamwork, leadership, and personal management. Strengthen your skills in numerical problem solving, file/data management, data presentation, and data analysis. |

## Learning, Teaching and Assessment Strategy

Concepts, theories and principles explored in formal lectures, practiced in tutorials and demonstrated in laboratory classes. Practical skills developed in laboratory sessions. Cognitive and personal skills developed in problem solving exercises.

There are a number of assessments designed to assess learning outcomes 1-3. Specifically the Academic Referencing assesses the library sessions relating to understanding how to correctly source and cite engineering material. (LO1) The Technical Group Presentation is designed to strengthen time management and develop effective working in groups and improve communication techniques. (LO3) The Computer Based Assessments EWP, Excel 1 & 2 focus on developing digital literacy and individually assess the student's proficiency in the use of the tools and technologies. (LO1, LO3) Finally the Reflective Essay is designed to assess written reflective communication related to the student's future career options as a result of guest lecture series. (LO1, LO3)

## Mode of Assessment

| Type | Method | Description | Weighting |
|---|---|---|---|
| Summative | Coursework | Submission of powerpoint slides with annotation | 15% |
| Summative | Coursework | Discipline Reflection essay | 10% |
| Summative | Computer-based assessment | Online Assessment: Academic Referencing | 10% |
| Summative | Examination - Open Book | 3 Computer Assessments: EWP (1 hr for 10%); Excel 1 (1hr for 20%); Excel 2 (1.5hrs for 35%) | 65% |

## Reading List

To access the reading list for this module, please visit https://bradford.rl.talis.com/index.html