Welcome to the **BEng Electronics and Software Engineering** degree programme of study at the University of Ulster. My name is **Dr Katzen** and, as the Course Director, I am responsible for day-to-day academic administration of the programme. It is my foremost duty to ensure that you are given every opportunity to advance your academic learning and personal skills development. To this end I am available to discuss and address any issues you may encounter over the duration of the programme. I am available in Room **5D02** by appointment, with casual availability posted on the office door.

Now some details about the programme. The BEng Programme, code C204UJ, is a 4-year programme with three years in the University environment and one year in an industrial environment. Students fulfilling the requirements of the Programme will be awarded an Ordinary Degree and a Diploma in Industrial Studies (DIS).

This programme was introduced as a result of the Engineering Council's third edition of SARTOR (Standards And Routes TO Registration) in 1997. This specified that the mainstream of the professional engineer would be at Incorporated Engineer (IEng) level. This would comprise around 80% of the profession with the remainder being Chartered Engineer (CEng). The programme is accredited to cover the educational requirements with the Institution of Incorporated Engineers (IIE), which is the nominated body recognised by the Engineering Council in this area of engineering. The industrial placement year enables undergraduates to develop and mature in relevant and live industrial settings, prior to final studies.

Engineering is a profession directed towards the skilled application of a distinctive body of knowledge, based on analytical techniques, science and technology, integrated with industry; which is acquired through education and professional formation in a relevant engineering discipline. Engineering is directed at developing, providing and maintaining infrastructure, goods and services for industry and the community.

Incorporated Engineers form the mainstream of professional engineering practitioners and act as the exponent of today's technology. They perform complex technical duties of an established or novel character in a wide variety of contexts. They have a substantial degree of personal responsibility and authority, often providing leadership and control in a managerial role. The posts occupied by Incorporated Engineers demand a combination of a practical approach and a detailed understanding of the particular technology. They must understand the fundamentals and practical application of current technology and be able to maintain and manage existing technology. They need communication skills and awareness of the industrial and professional environment beyond their specific area of responsibility.

The aim of the programme is to provide students with an education that will enable them to realise their ambitions to practise as innovative professional engineers in a highly competitive industry. To this end the programme provides the intending electronic engineer with a thorough
knowledge of scientific principles and engineering practice, together with an appreciation of the industrial and business environment in which they will work. It also seeks to engender in the young engineer, the confidence and competence to apply acquired knowledge and skills, to real engineering problems and challenges, with economic purpose.

The programme aims to:

• Develop the basis for the skills and attributes which Incorporated Engineers will be expected to display and consolidate throughout their careers.

• Provide the intended electronic engineer with the analytical, scientific and engineering principles to act as the foundation of the subject.

• Produce graduates with the ability to apply contemporary software and hardware technologies to the design and development of electronic systems suited to the requirements of industry and the community and to competently maintain existing systems.

• Cultivate an attitude of professionalism and to develop a facility in communication skills, team working and continuing professional development.

• Provide an appropriate balance between the vocational skills necessary for immediate employment and the more fundamental principles.

• Develop the student's personal attributes, especially in the areas of problem solving, design and a critical assessment of engineering.

The specific objectives which are set for this programme to achieve its aims are:

• Have a sound understanding of the engineering, software and scientific principles appropriate to current electronic engineering technology.

• Have a high level of technical proficiency and detailed understanding of current technical proficiency and detailed understanding of current technologies as relevant to the field of electronic engineering; both hardware and software, and be able to maintain and manage existing technology in an efficient manner.

• Be familiar with and interpret current standards, protocols and architectures relevant to electronic engineering.

• Have developed his/her personal attributes, especially in the areas of design and problem-solving skills, innovative thinking and the ability to make critical assessments of processes or products.

  • Have been able to specialise in selected areas of relevant communications, software and applied electronic engineering both through project work and final-year projects.
• Have developed an attitude of professionalism and communication skills together with an ability to work well as a member of a team.

• Be proficient in the role of information technology as applied to documentation, data manipulation, engineering analysis and design and communications.

• Have gained insight into the environmental impact of electronics technology.

• Appreciate the organisation and business practice of an industrial concern.

• Be qualified to pursue a career in the electronic and allied fields.

• Fulfil the Engineering Council requirements for interim registration as an Incorporated Engineer.

**Programme Management**

A Course Director manages each University Programme and has responsibility for overall policy matters relating to the programme and the day-to-day organisation of the Programme. Dr. Katzen is the Course Director. Dr. Rao is the Assistant Course Director. If you have any questions about a Programme that are not answered on the Programme web site (see especially the Frequently Asked Questions (FAQ) section in the General page) then the Course Director should be able to answer your query.

There is also a Course Committee associated with each programme which comprises the Course Director, Senior Academic staff from the School, Academic staff who are assigned to teach modules on the Programme and student representatives from each year of the Programme are entitled to attend. The Course Committee places great emphasis on quality and professionalism in all aspects of the Programme. There is, in place at School and Faculty level, a wide variety of checking mechanisms and procedures, both internal and external, to ensure that the standards expected from the Programme are met and maintained. There are thus mechanisms for example to ensure the quality of the Programme material and marking standards for both coursework and examinations.

**External Examiners**

External Examiners are usually senior academic staff from different universities or Chartered engineers from industry, who moderate and maintain the academic standards of the Programme. Currently the External examiner is Dr. Noel Murphy of Dublin City University. The Course Committee liaises closely with the External Examiner and is always appreciative of his advice and comments.

The External Examiner normally visits the University twice in the year, although contact is made throughout the academic year. On the first visit, final year students are questioned about their progress in the final year project. On the second visit he is involved in the moderation of assessment material and the meeting of the Board of Examiners, at which each student is considered individually and recommendations for the award of degrees made.

Coursework assignments and examinations papers with model solutions are presented to the
External examiner for approval. Similarly, all examinations scripts and coursework are made available for moderation. The report from the External examiner forms an important part of the documentation associated with the Annual Programme Review that is undertaken each year. In this Review, each Course Director is invited to consider the operation of the previous academic year and comment on its success or otherwise. This is a University mechanism for ensuring that the standards expected from the Programme are being maintained.

**Studies Advisor and Studies Advice Group**

In addition to the Course Director, you will be assigned a Studies Advisor. This will be a member of academic staff from within the School who will act in a pastoral role for you and other students within a Studies Advice Group. You will be advised of your Group and Studies Advisor by the first week of the Programme. Groups comprise of between 10 to 15 students and meet on a regular weekly basis during the first semester. The time for your meeting is indicated in the Timetable for Semester 1 of your Programme. Attendance at the weekly group meeting is compulsory and a register will be kept to monitor this. Absences from the group meetings will automatically activate staff to establish if you are ill or are experiencing any difficulties to cause the absences.

The function of the Studies Advice Group is to provide guidance and information on matters relating to study methods, time management, examination techniques, etc. In addition, it is used to regularly monitor your current position on the Programme and identify that your studies are going according to plan, or for example on matters relating to problems with grants or accommodation. The Studies Advisor for your group will also be your “voice” in the meeting of the Board of Examiners at the end of the Programme year. Consequently, you must always make him or her aware of any matters that you feel are affecting your performance in the coursework assessments or examinations; for example, absence from the Programme due to illness or any other reason. Students are occasionally called for jury duty. If this is the case see the FAQ page on your Programme web site. You should also meet with your Studies Advisor on an individual basis (outside of the group) if you need to discuss any personal matters.

**Student Staff Consultative Committee**

A few weeks after the start of your Programme, your class will be asked to nominate two student representatives to serve on the Student/Staff Consultative Committee. This committee meets with the staff representatives at least once each semester and provides an opportunity for you to discuss with the academic staff any problems associated with the organisation of the Programme so that remedial action can be quickly taken if necessary. Note that problems associated with specific modules should always in the first instance be discussed with your lecturer or/and module co-ordinator. These meetings are minuted and the minutes are included with the Programme Annual Report.

**Communication with the Student**

Each Programme has an information notice board. The notice board for this Programmes is located outside room 5F14. You should locate this notice board and make a point of regularly consulting it for up-to-date information on the Programme.

*Email will be used extensively for communication with students.* For this reason all students will be asked to email as soon as possible any external email address to the Course
director and communication will be both to the official University address as well as to any external addresses you supply.

The Electronics and Software Programmes have in addition a Programme web site providing a more comprehensive source of information on the Programme and related activities. There are also direct links into module syllabi and support material, and other useful sites such as careers.

The homepage is located at [http://www.engj.ulst.ac.uk/courses_index/c201uj](http://www.engj.ulst.ac.uk/courses_index/c201uj)

![Figure 1: Programme web site home page.](image)

From the home page you can access your year pages and a general page with information of general importance.

Some module data links into Faculty web pages and for this you will require a User name and Password. As these are liable to change from time to time you will be given the current settings at the appropriate time and any subsequent changes will be emailed to you.

Information available on the four main site pages is:

**Year 1**
- Year 1 notices.
- Hyperlinked Studies advisor list (sidebar) and Advisors of study scheme.
- Link to Faculty Timetable website (sidebar)
- Module guide (sidebar)
• Study tips for new and returning students and reading list

Year 2
• Year 2 notices.
• Hyperlinked Studies advisor list (sidebar) and Advisors of study scheme
• Link to Faculty Timetable website (sidebar)
• Module guide (sidebar)
• Study tips for new and returning students (please read this)
• Links to companies who have previously offered placement to students on this Programme.

Year 3
• Link to dedicated School web site for the placement year
• Module description (sidebar)
• Links to companies who have previously offered placement to students in this area (sidebar)
• Hyperlinked Studies advisor list (sidebar)
• Advice on making presentations (sidebar)
• Links to University work experience web site

Year 4
• Year 4 notices
• Hyperlinked Studies advisor list (sidebar)
• Link to Faculty Timetable website (sidebar)
• Module guide (sidebar)
• Study tips for students (please read this)
• Job opportunities

General
• Programmes Regulations (sidebar)
• Programme Calendar (sidebar)
• Hyperlinked version of this document.
• Frequently Asked Questions (FAQ) (sidebar).
• Examination timetable (sidebar).
• Useful links within the University; for example Academic Registry's student web site.
• Student Charter.
• Link to database of previous examination papers
• Programme prizes (sidebar).
**Structure of a Year**

The [University calendar](#) is organised around the normal three terms (Autumn, Spring and Summer). However, the Programme is organised on a Semester basis in which the academic year is divided into two parts. Semester 1 runs from September to January. Semester 2 runs from February to June. There is also some special teaching in the University between July and September but this is normally unlikely to affect your Programme. The Semester dates and vacation periods are contained on the Programme calendar shown in [Calendar](#) and updated in the appropriate General page of your Programme web site ([Calendar](#) icon).

**Modules**

During each Semester, you will normally study three or four modules, i.e. a total of 6 or seven modules each year. In the first years of your Programme, the modules available to you are all compulsory but in the final year you will be asked to select optional modules. The modules may be continuously assessed by coursework throughout or assessed by a combination of coursework and an examination. Examinations take place at the end of a module; i.e. there are two examination periods each year, in January and in May. In the University's modular Programme structure, a module may also be taken by students on Programmes other than your own.

The modular structure of the BEng Electronics and Software programme is shown in the diagram on the next page.
### Year 1

<table>
<thead>
<tr>
<th>Module Code</th>
<th>Module Title</th>
<th>Duration</th>
<th>ECTS Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEE14J1</td>
<td>Engineering Science</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>CEE18J1</td>
<td>Engineering Science</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>CEC12J1D</td>
<td>Analytical methods for Engineer</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>CEE12J2</td>
<td>Software Development</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>CEC12J2</td>
<td>Communication Systems</td>
<td>1</td>
<td>20</td>
</tr>
</tbody>
</table>

### Year 2

<table>
<thead>
<tr>
<th>Module Code</th>
<th>Module Title</th>
<th>Duration</th>
<th>ECTS Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEE24J1</td>
<td>Engineering Science</td>
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<td>20</td>
</tr>
<tr>
<td>CEC18J1</td>
<td>Engineering Science</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>CEC12J1D</td>
<td>Analytical methods for Engineer</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>CEE24J2</td>
<td>Software Development</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>CEC12J2</td>
<td>Communication Systems</td>
<td>1</td>
<td>20</td>
</tr>
</tbody>
</table>

### Year 3

<table>
<thead>
<tr>
<th>Module Code</th>
<th>Module Title</th>
<th>Duration</th>
<th>ECTS Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEE33J4</td>
<td>Instrumentation Project</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>CEE28J1</td>
<td>Engineering Management</td>
<td>3</td>
<td>20</td>
</tr>
<tr>
<td>CEC18J1A</td>
<td>Instrumentation</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>CEC12J1D</td>
<td>Instrumentation and Testing Methods</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>CEE38J1</td>
<td>Instrumentation</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>CEC12J4</td>
<td>Instrumentation</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>CEE28J1A</td>
<td>Instrumentation</td>
<td>2</td>
<td>20</td>
</tr>
</tbody>
</table>

**Figure 2:** BEng Electronics and Software modular structure
The Programme Calendar 2004 - 2005
BEng Electronics and Software

<table>
<thead>
<tr>
<th>Mid September, 2004</th>
<th>Course Committee Meeting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Semester 1 – Autumn</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Monday 20th September, 2004</strong></td>
<td>Autumn Teaching begins</td>
</tr>
<tr>
<td>Friday 1st October, 2004</td>
<td>Last date to alter semester 1 option module selections (Year 4, Hons)</td>
</tr>
<tr>
<td>Early November 2004</td>
<td>Student/Staff Consultative Meetings</td>
</tr>
<tr>
<td>Late November, 2004</td>
<td>Course Committee Meeting</td>
</tr>
<tr>
<td>Friday 10th December, 2004</td>
<td>Teaching Ends</td>
</tr>
<tr>
<td><strong>Monday 13th December, 2004</strong></td>
<td>Christmas Vacation begins</td>
</tr>
<tr>
<td><strong>Saturday 25th December – Monday 3rd Jan 2005</strong></td>
<td>University Closed (Christmas)</td>
</tr>
<tr>
<td><strong>Thursday 4th January, 2005</strong></td>
<td>Christmas vacation ends</td>
</tr>
<tr>
<td><strong>Wednesday 5th - Monday 17th January, 2005</strong></td>
<td>Examination Period</td>
</tr>
<tr>
<td>Friday 21st January 2005</td>
<td>Autumn Semester ends</td>
</tr>
</tbody>
</table>

| **Semester 2 - Spring**       |                          |
| **Monday 24th January, 2005** | Spring Teaching begins   |
| Friday 4th February, 2005     | Last date to alter semester 2 option module selections (Year 4) |
| Late February, 2005           | Student/Staff Consultative meetings |
| Mid March, 2005               | Course Committee Meeting  |
| February/March (TBA)          | Visit by external examiner to interview Project students |
| **Thursday 17th March, 2005** | University closed for St. Patrick's day |
| **Friday 25th March , 2005**  | Easter Vacation begins   |
| **Monday 12th April - Friday 16th April, 2005** | University closed (Easter) |
| **Friday 8th April, 2005**    | Easter Vacation ends     |
| **Monday 2nd May, 2005**      | University closed for Mayday |
| **Monday 11th April, 2005**   | Teaching resumes         |
| Tuesday 3rd May – Friday 6th May, 2005 | Revision week (non teaching) |
| Monday 9th May, 2005 (provisional) | Final submission date for Project report |
| **Monday 19th May – Tuesday 24th May, 2005** | Examination Period |
| Thursday 9th May *            | Last day for Boards of Examiners |

* Final year students to be available for interview by the External examiner on day preceding the Board of Examiners

<table>
<thead>
<tr>
<th>Friday 28th May, 2004</th>
<th>Spring Semester ends</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday 27th June, 2005</td>
<td>Graduation begins</td>
</tr>
</tbody>
</table>

**Resit Period**

| Wednesday 17th – Thursday 25th August, 2005 | Supplementary Examinations |
The Timetable for Semester 1

Your Course Director will provide you with an individual timetable at Induction. It might be a good idea to insert it on the outside of the back cover of this handbook so that it is readily available. If changes are necessary throughout the year you will be notified of them and should amend your individual timetable accordingly. There is a link into the Faculty Timetable web site from the Year page of your Programme web site via the icon.

Time management.

All university Programmes are designed on the assumption that you will work an average of 10 hours for each credit point; that is 200 hours for a 20 point module. In general each semester covers the equivalent 60 credit points. Spreading that over twelve teaching weeks and, say, two vacation weeks, implies an average 43 hour week for all classes and private study. Some of you may need to work more than this; no one should be working less as you can always learn more and understand better. However, if you work more than, say, 50 hours, be sure it’s time well used and remember that you need breaks!

To achieve your full potential, to understand and enjoy the Programme, and to maximise your chances of success and future employment, you will need to organise your time sensibly. You will be in timetabled classes for around 18 hours per week, so you need to find about 25 hours more in your own time, e.g. 14 hours more within ‘office hours’ and something like three whole evenings every week. If you work significantly less than this, you are likely to underachieve, to find your Programmes incomprehensible and dull, and to be in danger of failure.

Programme Specification

What follows is the Programme specification for your Programme. It makes explicit the intended outcomes in terms of knowledge, understanding, skills and other attributes. This should help you to understand

- the teaching and learning methods that enable the outcomes to be achieved;
- the assessment methods that enable achievement to be demonstrated;
- relationship of the programme and its study elements to the qualifications framework and to any subsequent professional qualification or career path.
PROGRAMME SPECIFICATION

PROGRAMME TITLE:  BEng Electronics and Software with DIS (C204uj)
                    BEng Electronics and Software (C204uj)

PLEASE NOTE. This specification provides a concise summary of the main features of the Programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he or she takes full advantage of the learning opportunities provided. More detailed information on the specific learning outcomes, content and the teaching, learning and assessment methods of each module can be found at http://www.engj.ulst.ac.uk/modules/. More detailed information on the Programme is available at the Programme web site at http://www.engj.ulst.ac.uk/courses_index/c201uj/ The accuracy of the information is periodically reviewed by the University. It may also be checked within the independent review process undertaken by the Quality Assurance Agency.

1. AWARDING INSTITUTION/BODY: University of Ulster
2. TEACHING INSTITUTION University of Ulster
3. LOCATION Jordanstown
4. PROGRAMME ACCREDITED BY Institution of Incorporated Engineers
5. FINAL AWARD BEng with DIS, BEng
6. MODE OF ATTENDANCE Full Time
7. SPECIALISMS Electronics and Software
8. UCAS CODE ULS/U20 GH7P/J/ BEng/elsoh
9. QAA SUBJECT UNIT Engineering

10. EDUCATIONAL AIMS OF THE PROGRAMME –

For all programmes:

• To develop the educational basis for the skills and attributes which Incorporated Engineers will be expected to display and consolidate in industry and throughout their professional career.
• To provide the intended electronic engineer with the analytical, scientific and engineering principles to act as the foundation of the subject.
• To produce graduates with the ability to apply contemporary software and hardware technologies to the design, development and maintenance of electronic systems.
• To provide an appropriate balance between the vocational skills necessary for immediate employment and the more fundamental principles necessary for postgraduate opportunities.
• To develop the student’s personal attributes, especially in the areas of problem solving, design and critical assessment of engineering.
• To cultivate an attitude of professionalism and to develop a facility in communication skills, team working and project planning.
• To fulfil the educational requirements for the Institution of Incorporated Engineers as an Incorporated Engineer.
• To develop in the student a deeper understanding of the theory and principles embodied in the discipline of electronic engineering.
• To produce graduates able to function in a design oriented environment with the ability to engage in original research and development.

In addition for students undertaking the Diploma in Industrial Studies:

• To enhance an understanding of the workspace.
• To develop personal and professional skills.
11. LEARNING OUTCOMES - The Programme provides opportunities for students to achieve and demonstrate the following learning outcomes.

11K KNOWLEDGE AND UNDERSTANDING OF SUBJECT

Knowledge and Understanding of:

K1 Theoretical principles fundamental to electronic engineering and software.
K2 Analytical tools applicable to electronic, software and communication engineering.
K3 The context of this branch of engineering to the industrial and business environment.
K4 The design process in the context of technological and economic constraints.

Teaching and Learning Methods
Subject related qualities are acquired mainly through lectures, teaching laboratories, directed reading, case studies, IT-based resources and experimental learning.

Assessment Methods
Testing of the knowledge base is principally through examinations, coursework assignments, laboratory reports, project dissertation and oral presentations.

11i INTELLECTUAL QUALITIES

I1 Able to analyse problems and design solutions.
I2 Able to be creative in the solution of problems and in the development of designs.
I3 Able to integrate engineering theory and practice.
I4 Able to obtain and use engineering information.
I5 Able to plan, conduct and report a program of original research.

Teaching and Learning Methods
Intellectual qualities are developed mainly through coursework assignments, experimental work, professional work experience and projects.

Assessment Methods
Assessment focuses on the coursework submission, experimental recording and reporting, viva and project dissertation.

11P PROFESSIONAL /PRACTICAL SKILLS

P1 Able to carry out a programme of experiments using laboratory equipment.
P2 Able to prepare and interpret technical documentation.
P3 Able to source and use engineering information.
P4 Able to use computer application packages across a variety of engineering tasks.
P5 Able to use standard software development tools to solve programming tasks.
P6 Able to demonstrate hands-on experience of basic laboratory and workshop practices.
P7 Able to demonstrate an insight into the organisation and business practice of an industrial concern and its interaction with society.
Teaching and Learning Methods
Engineering workshop practice, and supervised industrial placement. Teaching and formal laboratory, project and case-studies contribute to the learning outcomes.

Assessment Methods
The supervised work experience is assessed with visits, reports and oral presentations. Coursework assignments, workshop exercises, laboratory reports, project dissertations and student peer assessments also contribute to the assessment methods.

11T TRANSFERABLE/KEY SKILLS

T1 Able to use information technology and associated skills.
T2 Able to communicate to engineering and non-engineering specialists.
T3 Able to apply mathematical, modelling and software skills.
T4 Able to function as a member of a team.
T5 Able to learn in familiar and unfamiliar situations.
T6 Able to demonstrate personal and organisational skills.

Teaching and Learning Methods
Transferable and key skills are delivered throughout the Programme, i.e. lectures, coursework assignments, laboratory work, industrial placement year and project dissertations. The IT skills are taught within the Programme structure.

Assessment Methods
Assessment is principally through coursework assignments, laboratory reports and project dissertations. Assessment of teamwork is through submission of teamwork tasks, student peer and self assessment, and oral presentations.

11E ENTREPRENEURSHIP TRAINING

E1 Understand entrepreneurship, the entrepreneur and the entrepreneurial process.
E2 Understand the central role of creativity and innovation in entrepreneurship and the challenges of protecting new ideas.
E3 Identify the steps required to research the potential for and setting up of a new venture.
E4 Identify the key resources for a new venture creation and source, acquire and manage financial resources.

Teaching and Learning Methods
Entrepreneurship training will be student centred and designed to encourage independent learning and study. The focus is on the process and will employ maximum flexibility in the learning environment and in methods of delivery. As a consequence, a mixture of directed lectures and mentoring workshops will supplement Web-CT based learning material.

Assessment Methods
Assessment is principally through coursework assignments and project dissertations.
# MODULE OUTCOME MAP for BEng Electronics and Software with DIS (C204uj)

**Please Note**: The matrix displays only the main measurable outcomes. There may be other outcomes detailed in the module descriptions (e.g. attitudes and behaviours) which are not assessed.

| Module No. | Module Description                          | K1 | K2 | K3 | K4 | I1 | I2 | I3 | I4 | P1 | P2 | P3 | P4 | P5 | P6 | P7 | T1 | T2 | T3 | T4 | T5 | T6 | E1 | E2 | E3 | E4 |
|------------|---------------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Year 1     |                                             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| EEE116J1   | Engineering Science 1                       | X  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| EEE122J1B  | Analytical Methods                          | X  | X  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| EEE124J1   | Electronic Engineering Skills               | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  |    |    |    |    |    |    |    |    |
| EEE125J2   | Software Development I                      | X  |    |    |    |    |    |    |    |    | X  | X  |    |    |    |    |    |    |    |    |    |    |    |    |    |
| EEE132J2   | Circuit Analysis                            | X  | X  | X  | X  |    |    |    |    |    |    |    |    |    |    | X  | X  | X  | X  | X  |    |    |    |    |    |    |
| EEE111J2B  | Digital Systems & Micros                    | X  |    |    |    |    |    |    |    |    |    |    | X  | X  |    |    |    |    |    |    |    |    |    |    |    |
| Year 2     |                                             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| EEE305J1   | Microcontroller Systems                     | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  |    | X  |    |    |    |    |    |    |    |
| EEE310J1   | Comm Principles & Systems                   | X  | X  | X  | X  | X  | X  | X  | X  | X  |    | X  |    |    |    |    |    |    |    |    |    |    |    |    |    |
| EEE320J1B  | Software Development II                     | X  | X  | X  | X  | X  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| EEE306J2   | Signals and Systems                         | X  | X  | X  | X  | X  | X  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| MEC498J2   | Entreprenuership Awareness                   | X  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| EEE348J2   | Visual Programming                          | X  | X  | X  | X  | X  | X  | X  | X  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| EEE308J1B  | Electronic Engineering                      | X  | X  | X  | X  | X  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Year 3     |                                             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| MEC319J4   | Industrial Placement                        | X  | X  | X  | X  | X  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Year 4 Core|                                             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| EEE335J4   | Unclassified Project                        | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  |    | X  | X  |    |    |    |    |    |    |    |
| EEE529J1   | Engineering Management                      | X  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| EEE118J1A  | Instrumentation & Testing Methods           | X  | X  | X  | X  | X  | X  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| EEE352J1   | Internet Applications Programming           | X  | X  | X  | X  | X  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| EEE323J2A  | Communication Systems                       | X  | X  | X  | X  | X  | X  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Year 4 Optional|                                        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| EEE510J2B  | Medical Electronics                         | X  | X  | X  | X  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| EEE515J2B  | ASICs and VLSI Design                       | X  | X  | X  | X  | X  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| EEE522J2B  | Operating Systems and Networks              | X  | X  | X  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
12. PROGRAMME STRUCTURE AND REQUIREMENTS

The Programme offers two study programmes leading to either a Degree or a Degree with Diploma in Industrial Studies award. Both programmes are full time and conform to the University’s modular requirements. An accumulation of 120 credit points is necessary to complete each year of the Programme, with the exception of the industrial placement year. The former non-sandwich degree of three years duration is normally reserved for students with appropriate industrial experience acquired before entry to the Programme. The latter program is of four years duration, with a one year industrial placement representing the third year. In the final year of both programmes the choice of optional modules have been included.

Progression, transfer and award criteria are outlined in section 16.

Details of the modules, and their corresponding credit level, for each programme are listed below.

### Year 1

<table>
<thead>
<tr>
<th>Module No.</th>
<th>Module Title</th>
<th>Credit Level</th>
<th>Credit Points</th>
<th>*Module Status</th>
<th>Awards</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEE116J1</td>
<td>Engineering Science 1</td>
<td>1</td>
<td>20</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>EEE124J1</td>
<td>Electronic Engineering Skills</td>
<td>1</td>
<td>20</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>EEE122J1A</td>
<td>Analytical Methods</td>
<td>1</td>
<td>20</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>EEE125J1</td>
<td>Software Development I</td>
<td>1</td>
<td>20</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>EEE132J2</td>
<td>Circuit analysis</td>
<td>1</td>
<td>20</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>EEE111J2A</td>
<td>Digital Systems and Microprocessors</td>
<td>1</td>
<td>20</td>
<td>C</td>
<td></td>
</tr>
</tbody>
</table>

### Year 2

<table>
<thead>
<tr>
<th>Module No.</th>
<th>Module Title</th>
<th>Credit Level</th>
<th>Credit Points</th>
<th>*Module Status</th>
<th>Awards</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEE305J1</td>
<td>Microcontroller Systems</td>
<td>2</td>
<td>20</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>EEE310J1</td>
<td>Communication Principles &amp; Systems</td>
<td>2</td>
<td>20</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>EEE320J1A</td>
<td>Software Development II</td>
<td>2</td>
<td>20</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>EEE306J2</td>
<td>Signals and Systems</td>
<td>2</td>
<td>20</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>EEE308J1A</td>
<td>Electronic Engineering</td>
<td>2</td>
<td>20</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>EEE348J2</td>
<td>Visual Programming</td>
<td>2</td>
<td>10</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>MEC498J2</td>
<td>Entreprenuership Awareness</td>
<td>2</td>
<td>10</td>
<td>C</td>
<td></td>
</tr>
</tbody>
</table>

### Year 3

<table>
<thead>
<tr>
<th>Module No.</th>
<th>Module Title</th>
<th>Credit Level</th>
<th>Credit Points</th>
<th>*Module Status</th>
<th>Awards</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEC319J4</td>
<td>Industrial Placement</td>
<td>2</td>
<td>60</td>
<td>C</td>
<td>DIS</td>
</tr>
</tbody>
</table>

On award of degree

### Year 4

<table>
<thead>
<tr>
<th>Module No.</th>
<th>Module Title</th>
<th>Credit Level</th>
<th>Credit Points</th>
<th>*Module Status</th>
<th>Awards</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEE118J1A</td>
<td>Instrumentation &amp; Testing Methods</td>
<td>2</td>
<td>20</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>EEE529J1</td>
<td>Engineering Management</td>
<td>3</td>
<td>10</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>EEE335J4</td>
<td>Unclassified Project</td>
<td>2</td>
<td>30</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>EEE352J1</td>
<td>Internet Application Programming</td>
<td>2</td>
<td>20</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>EEE323J2A</td>
<td>Communications Systems</td>
<td>3</td>
<td>20</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>EEE510J2B</td>
<td>Medical Electronics</td>
<td>2</td>
<td>20</td>
<td>O</td>
<td></td>
</tr>
<tr>
<td>EEE515J2B</td>
<td>ASICS &amp; VLSI Design</td>
<td>2</td>
<td>20</td>
<td>O</td>
<td></td>
</tr>
<tr>
<td>EEE522J2B</td>
<td>Operating Systems and Networks</td>
<td>2</td>
<td>20</td>
<td>O</td>
<td></td>
</tr>
</tbody>
</table>

*Module Status  C = Compulsory  O = Optional
13. SUPPORT FOR STUDENTS AND THEIR LEARNING

Students and their learning are supported in a number of ways:-

- A comprehensive induction for new students regardless of entry level.
- Programme handbook and module booklets.
- Programme web site.
- Access for students to the Course Director and academic staff.
- Student representation on the course committee.
- Opportunity to address general Programme concerns through the student/staff consultative committee.
- Personal studies advisors allocated to each student.
- Opportunity for feedback on academic progress at the end of each semester.
- Guidance and information on safety-related matters.
- Facilities and assistance offered by the library and computer services (ISD).
- Student e-mail accounts and full access to the Internet
- Department of Student Affairs provides services in the fields of accommodation, health, counselling & guidance, careers, childcare, finance & special needs.
- The Careers Service, in conjunction with Programme teams, provides careers advice and the preparation for Industrial Placement.
- The University has protocols for assessment of students with disabilities.
- Student membership and participation in Professional bodies is encouraged.
- The Students Union, in conjunction with the International Office, runs an orientation Programme for overseas students.

14. CRITERIA FOR ADMISSION TO THE PROGRAMME

Applicants must satisfy the University's general entry requirements and specific requirements for admission to the Programme are detailed below:

- GCE - ‘A’ level grades 180 points including mathematics and/or a physical science.
- VCE - 180 points from a Double award in Engineering plus a single award in either Internet Communications Technology or Science
- BTEC Diploma in Engineering - 1 Distinction plus 5 Merits in level III units including mathematics and engineering science.

Other qualifications as deemed equivalent to the above.
Direct entry into year 2 is also possible from a number of different Programme. (eg. HND Engineering, similar degree Programmes, etc.)
15. EVALUATING AND IMPROVING THE QUALITY AND STANDARD OF LEARNING AND TEACHING

The following mechanisms are used:

- Formal student feedback is sought on the content and delivery of each module via a module evaluation questionnaire, a free response method or a module forum.
- Upon completion the module team reviews each module. Statistical information, student feedback, content, delivery, assessment methods, resources and proposed enhancements are considered.
- Regular student/staff consultative meetings provide the means of highlighting any difficulties, relating to the Programme, experienced by the cohort.
- The course committee considers module evaluations and other student feedback, with matters of concern highlighted for action, as part of the annual Programme review.
- Students are given opportunity to be represented at course committee and faculty board.
- The Programme is periodically reviewed by the Institution of Incorporated Engineers.
- Staff teaching performance is monitored annually through student questionnaires. In addition, staff members are encouraged to participate in peer observation of their teaching.
- Staff appraisal is carried out on a 2 year cycle with attention given to the development needs of the individual staff member.
- At school and faculty levels there are active Learning and Teaching Committees responsible for co-ordinating developments and initiatives relating to innovative methods for delivery, technology mediated learning, as well as general resource issues. In addition, this committee is responsible for regulating faculty codes of practice relating to Programme management and delivery.
- The University has an active Educational Development Unit which supports and funds specific research/projects into improvement of delivery and overall student experience.
- The University has an active Staff Development Unit, which works closely with Educational Development and, in addition provides specific training/development for staff. Specifically, all new staff members (opportunity is also provided for existing staff) have to pursue a formal teaching qualification (Postgraduate Certificate) and are encouraged to apply for membership of the ILT.

16. REGULATION OF STANDARDS

General Requirements

General Programme regulations are in accordance with the current University of Ulster “Charter, Statutes, Ordinances and Regulations”. Programme regulations are detailed in the Programme web site in the General page at: http://www.engj.ulst.ac.uk/courses_index/c201uj.

The following outlines those regulations specific to the Programme:

Transfer to BEng(Hons) Electronics and Software

Students on the Degree programme who, at the end Year 1, pass all examinations and attain an overall average of 50% in both EEE122J1B and EEE111J2B will be permitted to transfer to the Year 2 of the Honours Degree.

Similarly, students on the Degree programme who, at the end Year 2, pass all examinations and attain an overall average of 50% in both EEE320J1B and EEE308J2B will be permitted to transfer to the Placement Year of the Honours Degree

Final Year Assessment

The award of degree is based on the assessment of student performance in the final year of the degree. An aggregate mark
of the final year marks will be used to classify the degree.

**Performance levels for Degree Classification**
The following will be the minimum percentages normally acceptable in determining the overall grade of the degree.

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>At least 60%</td>
<td>Pass with Commendation</td>
</tr>
<tr>
<td>At least 40% and less than 60%</td>
<td>Pass</td>
</tr>
<tr>
<td>Less than 40%</td>
<td>Fail</td>
</tr>
</tbody>
</table>

**External Examiner**
An External Examiner has been appointed for the Programme. His role is to moderate the assessment process, ensure appropriate standard of final awards and ensure that accuracy and consistency of assessment has been applied. Detailed duties are as specified in the current University of Ulster “Code of Practice for External Examiners” (consistent with QAA standards).

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### 17. INDICATORS OF QUALITY RELATING TO LEARNING AND TEACHING

- Teaching staff within the faculty are encouraged to become accredited members of the Institute for Learning and Teaching. To date 6 members have fulfilled the requirements through completion of the Postgraduate Certificate in University Teaching. A further 6 staff members are in process of gaining the award.
- As well as teaching, most staff are actively engaged in research that informs their teaching. In addition, most have substantial industrial experience prior to joining the University. A significant number are full members of appropriate professional bodies (e.g. CEng, MIEE, MIEEE etc.).
- In the 1996 Research Assessment Exercise staff teaching on the Programme contributed to Unit 33 “Built Environment” gaining a score of 4a. The subject areas of “Metallurgy and Materials” and “General Engineering” both achieved 3a’s. Further improvements are anticipated in future exercises.
- A member of the teaching team was awarded the Distinguished Teacher award from the University.
- All students obtain a suitable one year industrial placement for their DIS year either locally or internationally.
- Graduates from the Programmes have substantially better employment prospects than those from most other subject disciplines. Most will have paid employment within industry within 3 months of graduation.
- The Programme is accredited by the Institute of Incorporated Engineers. The most recent accreditation visit was in October 2000.
Programme Regulations
Your programme of study is governed by regulations that in part are set, and changed, by the University.

University Programme Regulations
The current regulations are given at the end of this section on your Programme; but the regulations that will apply to you at any stage of your Programme will be those in force at the time. Updates are published on the University web site and in the General page of your Programme web site.

The numbering system used is that of the standard University template for such Programme Regulations.

Tables of Modules
The final section of the University Programme Regulations, Table of Modules, given at the end of the next section, is specific to your Programme
PROGRAMME REGULATIONS

1. PROGRAMME TITLE

Bachelor of Engineering in Electronics and Software with DIS  C204uj
Bachelor of Engineering in Electronics and Software  C204uj

2. MODE OF ATTENDANCE

Full-time sandwich  C204uj
Full-time  C204uj

3. DURATION

FULL-TIME SANDWICH: Normally 4 years (6 semesters of study and placement year)
FULL-TIME: Normally 3 years (6 semesters of study)

4. LOCATION

Jordanstown

5. FACULTY

Engineering

6. ADMISSION REQUIREMENTS

6.1 Applicants must:

(a) satisfy the University’s general entrance requirements;

(b) Candidates who have taken examinations for approved General Certificate of Education and General Certificate of Secondary Education (or equivalent examinations) should have obtained at least:

(i) passes in TWO subjects at A Level and at Grade C, or better, in THREE other subjects at GCSE-Level,

or

(ii) passes in THREE subjects A Level and at Grade C, or better, in ONE other subject at GCSE-Level,

or

(iii)
pass in ONE subject at A-Level and TWO other subjects at AS-Level; and at Grade C, or better, in TWO other subjects at GCSE-Level.
or

(iv)
passes in TWO subjects at A Level and in TWO other subjects at AS Level.

or

(v)
passes in ONE subject at A Level and in THREE subjects as AS Level.

or

(vi)
hold other educational qualifications approved by the Senate as being of equivalent standard

(c) Normally a pass in at least one analytical, physical science or technical subject at A-Level, or TWO equivalent AS-Level subjects is required.

(d) Equivalent qualifications under (b)(vi) above include an appropriate Business & Technician Education Council Certificate/Diploma (or equivalent examinations) with a minimum of THREE passes with merit in Level N111 units, including Mathematics or a Vocational A Level in Engineering plus a single award from Science/Internet and Communications Technology.

(e) Candidates for admission will normally be expected to have passed English Language at GCSE-Level or possess other adequate evidence of competence in written and spoken English.

(g) Applicants may be required to attend the University for interview before admission to the Programme.

No subject may be counted at more than one level except in the case of the Intermediate GNVQ and Vocational A level.

Overseas applicants will normally be required to achieve a grade of 6.5, or better, in the English Language Testing Service (available through the British Council) or possess an equivalent qualification.

6.2 Applicants of 21 years of age or over (or in exceptional circumstances, of less than 21) at the date of entry may be admitted even if they have not satisfied the requirements, provided they can demonstrate their ability to undertake the Programme.

7. EXEMPTIONS

7.1 Studies pursued and examinations passed in respect of other qualifications awarded by the University or by another university or other educational institution may be accepted as exempting candidates from part of an approved programme provided that they shall register as students of the University of Ulster for modules amounting to at least the final third of the credit value of the award at the highest level.

8. PLACEMENT

Following normally after Year 2, students are required to spend the year on industrial training. Successful completion of the professional training elements may lead to the award of the Diploma in Industrial Studies (DIS).

Exceptionally, students who are unable to complete the period of industrial placement due to short term illness, company closure or other mitigating circumstances, or students unable to obtain industrial
placement may, at the discretion of the Board of Examiners, be permitted to proceed to final year. Such students will not be eligible for the award of the Diploma in Industrial Studies. If a student is unable to obtain industrial placement before the start of the semester he or she may proceed directly to the final year provided that the Course Director is convinced that genuine efforts have been made to find placement. In such circumstances the student may withdraw from final year if placement is found within six weeks from the start of the semester. If placement is subsequently found the student may complete semester one of final year and then withdraw to complete a full period of placement, returning to semester two of the following academic year.

9. ATTENDANCE REQUIREMENTS

9.1 Students are expected to attend all classes associated with the programme and be punctual and regular in attendance.

9.2 A student who has not been in attendance for more than three days through illness or other cause must notify immediately the Course Director. The student shall state the reasons for the absence and whether it is likely to be prolonged. Where the absence is for a period of more than five working days, and is caused by illness which may affect their studies, the student shall provide appropriate medical certification in accordance with the General Regulations for Students.

9.3 Students who are absent without good cause for a substantial proportion of classes may be required to discontinue studies, in accordance with the General Regulations for Students.

10. RULES GOVERNING STUDENT CHOICE

10.1 Modules are offered as indicated in the tables at the end of this document. Revisions may be made in accordance with the University’s quality assurance procedures. Module availability may vary. In all but final year modules are compulsory. In the final year one optional module in Semester 2 is available, subject to resource limitations, from the list shown in the appended table.

11. EXAMINATION AND ASSESSMENT

11.1 The performance of candidates shall be assessed by the Board of Examiners in accordance with the Regulations Governing Examinations in Programmes of Study.

11.2 Candidates shall be assessed in the modules for which they have enrolled in each year of study. At the discretion of the Board of Examiners candidates may be required to attend a viva voce examination.

11.3 Within each module candidates shall be assessed by written examination and/or continuous assessment in accordance with the attached table.

11.4 The pass mark shall be 40% for each assessment element and the module overall.
11.5 The pass mark for the placement year is 50%; a mark of 40% is sufficient for progression to the next stage of the Programme.

12. SUBMISSION OF COURSEWORK

12.1 Coursework must be submitted by the dates specified by the module co-ordinator.

12.2 Students may seek prior consent from the course committee to submit coursework after the official deadline; such requests must be accompanied by a satisfactory explanation, accompanied in the case of illness by a medical certificate. This application shall be made to the Course Director.

12.3 Coursework submitted without consent after the deadline shall not normally be accepted.

13. PROGRESS

13.1 Subject to 14 and 15 hereof, candidates are required to pass all modules in each year of study in order to proceed to the next. Progress from semester 1 to semester 2 is automatic.

13.2 Students on the Degree programme who, at the end Year 1, pass all modules and attain an overall average of 50% in both EEE122J1B and EEE111J2B will be permitted to transfer to the Year 2 of the Honours Degree. Similarly, students on the Degree programme who, at the end Year 2, pass all modules and attain an overall average of 50% in both EEE320J1B and EEE308J2B will be permitted to transfer to the Placement Year of the Honours Degree.

14. CONDONEMENT

14.1 Condonement permits candidates to fail in modules without a requirement to repeat assessment.

In considering performance in an academic year, subject to this proviso, the Board of Examiners shall condone failure in modules in accordance with the following principles:

14.2 Minimum Mark

The minimum percentage which must be obtained by a candidate in each assessment element (coursework or written examination) in order to be considered for condonement of failure is 35%.

14.3 Extent of Condonement

14.3.1 In any year other than the final year, candidates may be permitted to fail in module(s) to a value of no more than one-third of the credit value of modules studied;

Candidates who are repeating an entire year may be permitted to fail in module(s) to a value of one-sixth of the credit value of modules studied.
14.3.2 In the final year, candidates may be permitted to fail in module(s) to a value of no more than one-sixth of the credit value of modules studied.

14.4 Application

14.4.1 In modules which are assessed by coursework or written examination only, failure may be condoned provided that there is evidence of sufficient merit in the other modules taken in the year, demonstrated by an overall mark of at least 45% (with each module weighted according to its credit value);

14.4.2 In modules which are assessed by a combination of coursework and written examination, failure in one element may be condoned provided that there is evidence of sufficient merit in the other element demonstrated by an overall mark of at least 45% in the module (with the application of equal weighting between the two elements). If this evidence is insufficient, an overall mark of 45% in the year may be accepted (with each module weighted according to its credit value);

14.4.3 In modules which are assessed by a combination of coursework and written examination, failure in both elements may be condoned provided that there is evidence of sufficient merit in the other modules taken in the year, demonstrated by an overall mark of at least 45% (with each module weighted according to its credit value).

14.5 Repeated Assessments

For the purpose of applying condonement only, the actual mark achieved shall be considered and the maximum mark allowed (40%) shall be disregarded.

15. CONSEQUENCES OF FAILURE

15.1 Candidates who fail to satisfy the Board of Examiners in assessment may be permitted at the discretion of the Board to re-present themselves as specified in 15.2 for one or more supplementary examination and repeat such coursework or other assessment requirements as shall be prescribed by the Board. Such candidates may be exempted at the discretion of the Board from the normal attendance requirements. Where candidates are required to repeat coursework or to take a supplementary examination the original mark in the failed coursework component or examination shall be replaced by a mark of 40% or the repeat mark whichever is the lower for the purpose of calculating the module result, except in the DIS year where the maximum mark allowed shall be 50%.

15.2 In each year, other than the final year, the consequences of failure which is not condoned in accordance with 14 hereof shall normally be as follows:
**Failure at the First Attempt**

Failure in modules with an overall value up to and including 60 credit points
Repeat specified examinations and/or coursework in the failed modules (examinations August)

Failure in modules with an overall value of 70 or 80 credit points
Repeat specified examinations and/or coursework in the failed module(s) (examinations January) and of specified examinations and/or coursework in the second semester modules (examinations May) with or without attendance OR withdraw from the programme or discontinue studies at the University.

Failure in modules with an overall value of more than 80 credit points
Withdraw from the programme or discontinue studies at the University.

Failure by candidates in year 2 of sandwich Programmes
Exceptionally second year students on sandwich Programmes may be permitted to commence the placement period, pending a requirement to represent themselves for supplementary written examinations or to repeat coursework.

**Failure at the Second Attempt**

Failure in modules with an overall value up to and including 20 credit points
Provided that the module(s) are not prerequisite(s), proceed to next year and repeat once only specified examination(s) and/or coursework in the failed module(s) at the next examination period (January or May).

Failure in modules with an overall value of 30 or 40 credit points
Repeat once only specified examination(s) and/or coursework in the failed module(s) at the next examination period (January or May or August if semester already repeated) with or without attendance (progress to next year not permitted).

Failure in modules with an overall value of more than 40 credit points
Withdraw from the programme or discontinue studies at the University.

**Consequences of failure in placement year (DIS)**

**Failure at the First Attempt**
Failure in project
Resubmit project by a date specified by the Course Committee. (Maximum mark not to exceed 50%).

Failure in placement
Repeat once only all or part of placement.
Failure at the Second Attempt

Failure in project Repeat once only the project. (Maximum mark not to exceed 50\%.)

Failure in placement Withdraw from the Programme.

15.3 Failure in the Final Year (Ordinary degree)

In the final year the consequences of failure which is not condoned in accordance with section 14 above shall normally be as follows:

Failure in modules with an overall value up to and including 40 credit points Repeat specified examination(s) and / or repeat of coursework in the failed module(s) (one attempt only) (examinations August).

Failure in modules with an overall value of more than 40 credit points Withdraw from the programme or discontinue studies at the University.

16. CLASSIFICATION OF FINAL RESULT

16.1 The attached table indicates the contribution of each module/level to the final award.

16.2 Classification of final result

The following shall be the minimum percentages acceptable in determining the overall gradings of candidates.

Pass with Commendation 60%
Pass 40%

The Board of Examiners shall recommend the award of a Pass with Commendation to a candidate who achieves an overall mark of at least 60\%, provided that a module mark of at least 60\% has been achieved in modules which constitute at least 50\% of the credit points contributing to the final result.

16.3 Award of Diploma in Industrial Studies

The following shall be the minimum percentages used in determining the overall gradings of candidates in the Diploma.

Pass with Commendation 70%
Pass 50%
17 ILLNESS AND OTHER EXTENUATING CIRCUMSTANCES

17.1 In any year other than final year:

The Board of Examiners may in the case of candidates who are prevented by illness or other sufficient cause from taking or completing the whole or part of the assessment during the Programme, or whose results are substantially affected by illness or other sufficient cause, permit the candidates to complete, take, or repeat the assessment in one or more modules at an approved subsequent date.

17.2 The Board of Examiners may in the case of candidates who are prevented by illness or other sufficient cause from taking or completing the whole or part of the final stage assessment or whose results are substantially affected by illness or other sufficient cause:

(a) permit the candidate to complete, take, or repeat the assessment in one or more modules at an approved subsequent date or

(b) deem the candidate to have passed and recommend an Aegrotat Degree.

17.3 Before an Aegrotat award is recommended a candidate must have signified that he or she is willing to accept the award.

18 REVISIONS TO REGULATIONS

These regulations may be revised during the student’s period of registration in accordance with the procedures approved by Senate.

19 TABLE OF MODULES
<table>
<thead>
<tr>
<th>Year/Level</th>
<th>Semester</th>
<th>Module Title</th>
<th>Code</th>
<th>Credit Value</th>
<th>Status</th>
<th>Condonable (Y/N)</th>
<th>Assessment Methods % SE % CA</th>
<th>Contribution to the overall mark of the Final Award</th>
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