



Trinity College Dublin

Coláiste na Tríonóide, Baile Átha Cliath

The University of Dublin

School of Engineering

Mechanical & Manufacturing Engineering MAI Handbook 2022-2023



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Appendix 1: MMBE Risk Assessment Template

Note:

Alternative formats of the handbook can be made available on request.
All students are encouraged to fully familiarise themselves with college rules and general regulations which can be found here:

<https://www.tcd.ie/calendar/undergraduate-studies/general-regulations-and-information.pdf>

In the event of any conflict or inconsistency between the General Regulations published in the University Calendar and information contained in programme or local handbooks, the provisions of the General Regulations in the Calendar will prevail.

1. Introduction

Welcome back to the Discipline for your fifth year of study in College. This is an extremely important year for you all and it will be a busy one. Outlined below is some information and advice to help you through the year. We hope you enjoy your year and wish you all success in your exams and in the future.

It is extremely important that you organise and use your time responsibly and effectively. What follows are some rough guidelines to help you to do this. You should get started immediately on your project and spend at least 16-20 hours/week in the first semester ensuring that you can achieve a reasonable level of success. This does not mean that you neglect your lecture modules and laboratory/assignment work. In general, you should aim to work for about 40 hours/week. With about 12 hours timetabled, this means a minimum of 28 hours of private study. Otherwise, continue the other well serving techniques that you will have perfected in your SS year.

MAI Year Overview

The MAI year is divided into two semesters, with assessments taking place at the end of each semester. All students conduct an engineering research project (5E1 Engineering Research Project), which runs all year and accounts for 30 credits. Students also select modules amounting to 30 credits, spread over the two semesters. The modules chosen must be evenly spread across the two semesters (i.e., 15 credits in each semester).

The MAI modules offered reflect the very wide research and technological interests of the academic staff. In most cases, there will be small group tutorials organised by staff and teaching assistants. Each module has at least one laboratory session or assignment, to ensure students have the capacity to apply the theoretical knowledge gained in coursework to practical systems. In addition, the project (5E1), undertaken under the direct

supervision of a member of staff, represents a significant element of the work load. A preliminary report on the project is written at the end of the first semester. Further details on the project can be found on the School of Engineering website.

<https://www.tcd.ie/Engineering/undergraduate/bai/year-5/>

COVID-19 2022/23

Further to the guidelines as set out by the Vice Provost, we note that due to the ongoing presence of COVID-19, it is important to follow familiar guidelines relating to hand hygiene, wearing of facemasks. This is part of your individual responsibility for managing symptoms or illness of any kind. Mask wearing is not mandatory but we strongly recommend students wearing masks in lecture settings, libraries and other venues where people may be in close quarters. We know this mitigation is effective in limiting transmission.

We also encourage staying away from class for 7 days if you test positive. We will support you during this period by offering online resources as usual where practical. We will make best efforts to enable online streaming of lectures where facilitated in College lecture theatres. This may not always be possible because of the nature of the lecture/tutorial or laboratory material. Specific resources that can be made available to students in such situations will likely differ across modules and learning situations and your module coordinators will make this clear as we go through the semester.

2. Contacts

2.1 Director of Mechanical & Manufacturing Engineering Stream

Professor Tim Persoons; persoont@tcd.ie

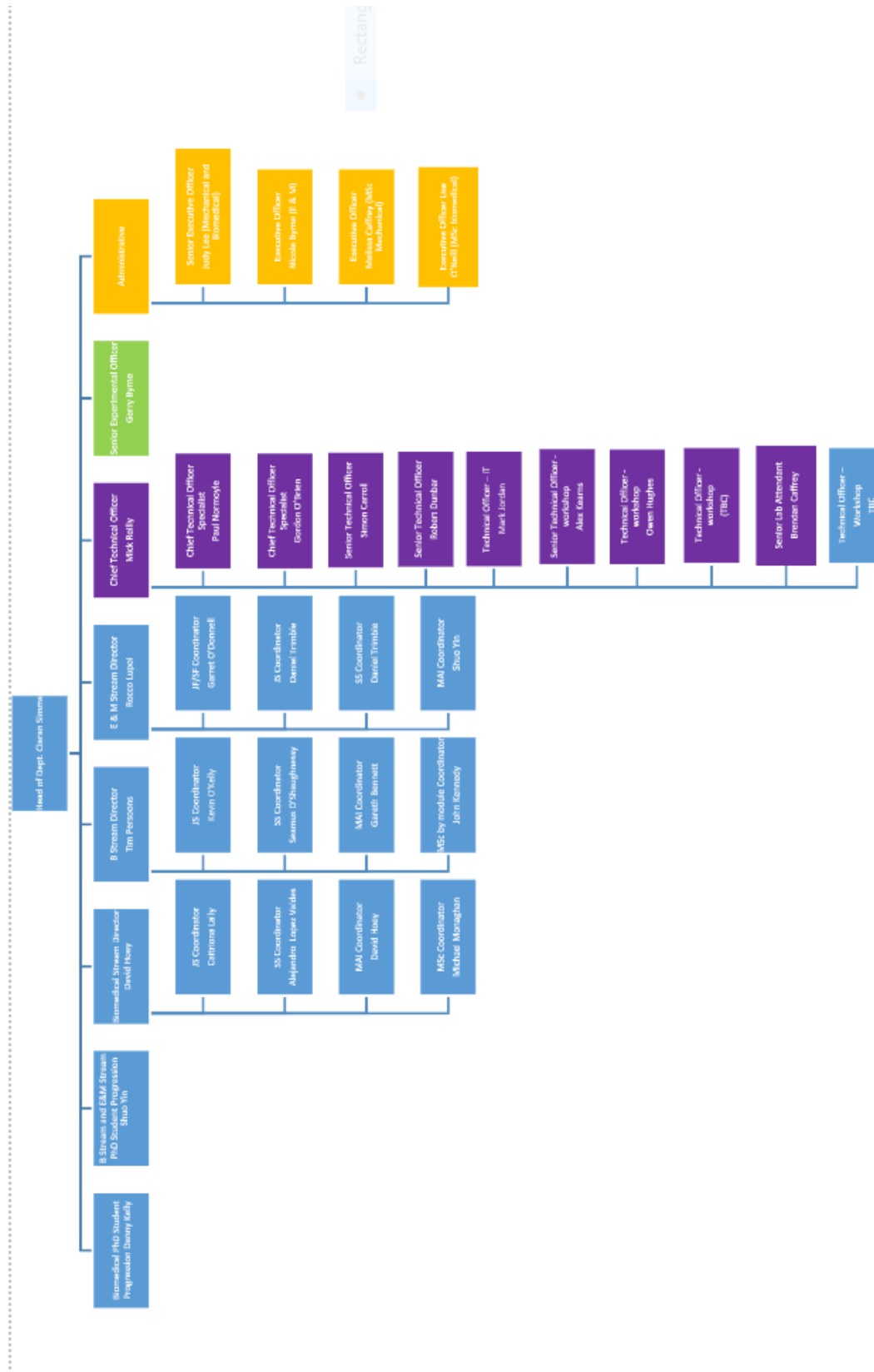
MAI Coordinator

Professor Gar Bennett: Gareth.bennett@tcd.ie

2.2 Administrative contacts

Judith Lee, Senior Executive Officer; julee@tcd.ie

Departmental Organisational Chart



3. Key dates

3.1 Academic year calendar

Trinity College Dublin The University of Dublin

ACADEMIC YEAR CALENDAR 2022/23

Academic Calendar Week	Week beginning	2022/23 Academic Year Calendar		Term / Semester
		UG continuing years / PG all years	UG new first years	
1	29-Aug-22	Reassessment* (for Semesters 1 & 2 of 2021/22)		←Michaelmas Term begins/Semester 1 begins
2	05-Sep-22	Orientation (Postgraduate, Visiting & Erasmus); Marking/Results		
3	12-Sep-22	Teaching and Learning		←Michaelmas teaching term begins
4	19-Sep-22	Teaching and Learning	Orientation (JF UG)	
5	26-Sep-22	Teaching and Learning	Teaching and Learning	
6	03-Oct-22	Teaching and Learning	Teaching and Learning	
7	10-Oct-22	Teaching and Learning	Teaching and Learning	
8	17-Oct-22	Teaching and Learning	Teaching and Learning	
9	24-Oct-22	Study/Review	Study/Review	
10	31-Oct-22	Teaching and Learning (Monday, Public Holiday)	Teaching and Learning (Monday, Public Holiday)	
11	07-Nov-22	Teaching and Learning	Teaching and Learning	
12	14-Nov-22	Teaching and Learning	Teaching and Learning	
13	21-Nov-22	Teaching and Learning	Teaching and Learning	
14	28-Nov-22	Teaching and Learning	Teaching and Learning	
15	05-Dec-22	Revision	Revision	
16	12-Dec-22	Assessment*	Assessment**	←Michaelmas term ends Sunday 18 December 2022/Semester 1 ends
17	19-Dec-22	Christmas Period - College closed	Christmas Period - College closed	
18	26-Dec-22	23 December 2022 to 2 January 2023 inclusive	23 December 2022 to 2 January 2023 inclusive	
19	02-Jan-23			
20	09-Jan-23	Foundation Scholarship Examinations*	Foundation Scholarship Examinations**	
21	16-Jan-23	Marking/Results	Marking/Results	←Hilary Term begins/Semester 2 begins
22	23-Jan-23	Teaching and Learning	Teaching and Learning	←Hilary teaching term begins
23	30-Jan-23	Teaching and Learning	Teaching and Learning	
24	06-Feb-23	Teaching and Learning (Monday, Public Holiday)	Teaching and Learning (Monday, Public Holiday)	
25	13-Feb-23	Teaching and Learning	Teaching and Learning	
26	20-Feb-23	Teaching and Learning	Teaching and Learning	
27	27-Feb-23	Teaching and Learning	Teaching and Learning	
28	06-Mar-23	Study/Review	Study/Review	
29	13-Mar-23	Teaching and Learning (Friday, Public Holiday)	Teaching and Learning (Friday, Public Holiday)	
30	20-Mar-23	Teaching and Learning	Teaching and Learning	
31	27-Mar-23	Teaching and Learning	Teaching and Learning	
32	03-Apr-23	Teaching and Learning (Friday, Good Friday)	Teaching and Learning (Friday, Good Friday)	
33	10-Apr-23	Teaching and Learning (Monday, Easter Monday)	Teaching and Learning (Monday, Easter Monday)	
34	17-Apr-23	Revision	Revision	←Hilary Term ends Sunday 23 April 2023
35	24-Apr-23	Trinity Week (Monday, Trinity Monday)	Trinity Week (Monday, Trinity Monday)	←Trinity term begins
36	01-May-23	Assessment* (Monday, Public Holiday)	Assessment* (Monday, Public Holiday)	
37	08-May-23	Marking/Results	Marking/Results	
38	15-May-23	Marking/Results	Marking/Results	
39	22-May-23	Marking/Results	Marking/Results	
40	29-May-23	Research	Research	←Trinity Term ends Sunday 4 June 2023/Semester 2 ends
41	05-Jun-23	Research (Monday, Public Holiday)	Research (Monday, Public Holiday)	
42	12-Jun-23	Research	Research	
43	19-Jun-23	Research	Research	
44	26-Jun-23	Research	Research	
45	03-Jul-23	Research	Research	
46	10-Jul-23	Research	Research	
47	17-Jul-23	Research	Research	
48	24-Jul-23	Research	Research	
49	31-Jul-23	Research	Research	
50	07-Aug-23	Research (Monday, Public Holiday)	Research (Monday, Public Holiday)	
51	14-Aug-23	Research	Research	
52	21-Aug-23	Research	Research	

* Note: additional/contingency days may be required outside of the formal assessment/reassessment weeks.
 ** Note: it may be necessary to hold a small number of JF examinations/assessments in the week beginning 9th January 2023.
 *** Note: it may be necessary to hold some examinations/assessments in the preceding week.

3.2 Teaching weeks

Semester 1: 12 September to 2 December 2022

Semester 2: 23 January to 14 April 2023

3.3 Exam dates

Semester 1 Assessment: 12 – 17 December 2022

Semester 2 Assessment: 2 – 6 May 2023

Draft Reassessment Session 2023 (to be confirmed)

3.4 Submission dates and information for projects

5E1 Assessment Components and dates

Item	Date Due	Comment	% 5E1
Project Plan	Friday of week 6 (semester 1)	5 minute presentations with 5 minutes questions/feedback from academic/technical staff.	5%
Interim Report	Friday of week 10 (semester 1)	Literature review, work to date and project plan; supervisor feedback.	15%
Thesis	Friday of week 12 (semester 2)	As per guidelines in module descriptor: max 60 pages not including appendices.	80%
Viva-Voce Presentation & Examination	Trinity and revision weeks	Supervisor and second reader to attend; separate chair if required by supervisor.	

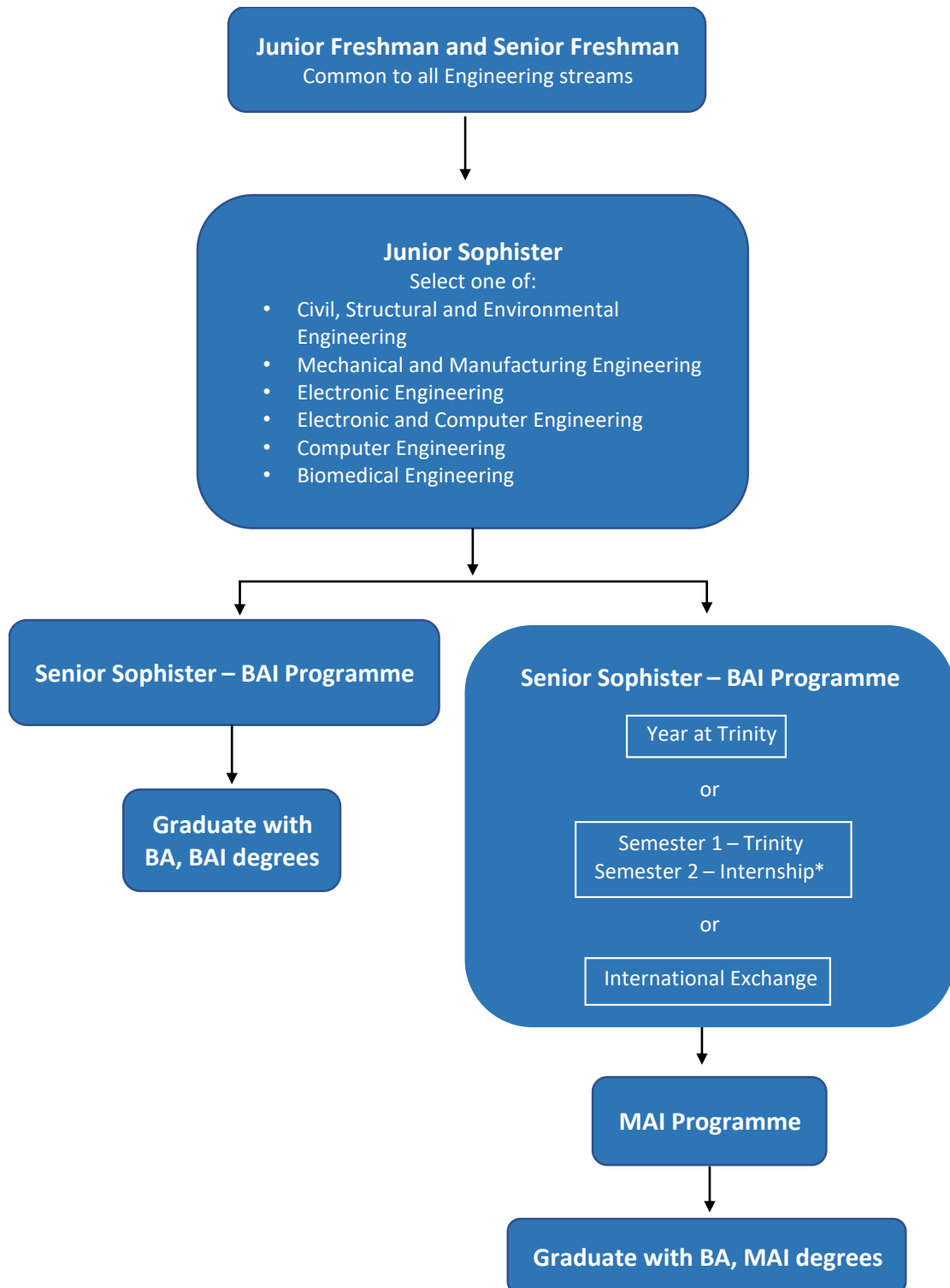
5E1 Thesis Marking Guidelines

(%)	Descriptors
90-100	Exceptional project report showing broad understanding of the project area and exceptional knowledge of the relevant literature. Exemplary presentation and analysis of results, logical organisation and ability to critically evaluate and discuss results coupled with insight and novelty/originality. Exemplary project report of publishable quality (e.g. peer reviewed scientific journal/patent application in- progress).
80-89	An excellent project report clearly showing evidence of wide reading far above that of an average student, with excellent presentation and in-depth analysis of results. Clearly demonstrates an ability to critically evaluate and discuss research findings in the context of relevant literature. Obvious demonstration of insight and novelty/originality. An excellently executed report overall of publishable quality (e.g. short peer reviewed conference paper such as IEEE in-progress) with very minor shortcomings in some aspects.
70-79	A very good project report showing evidence of wide reading, with clear presentation and thorough analysis of results and an ability to critically evaluate and discuss research findings in the context of relevant literature. Clear indication of some insight and novelty/originality. A very competent and well-presented report overall but falling short of excellence in some aspects. Sufficient quality/breadth of work similar to requirements for an abstract at a scientific conference.
60-69	A good project report which shows a reasonably good understanding of the problem and some knowledge of the relevant literature. Mostly sound presentation and analysis of results but with occasional lapses. Some relevant interpretation and critical evaluation of results, though somewhat limited in scope. General standard of presentation and organisation adequate to good.
50-59	A moderately good project report which shows some understanding of the problem but limited knowledge and appreciation of the relevant literature. Presentation, analysis and interpretation of the results at a basic level and showing little or no novelty/originality or critical evaluation. Insufficient attention to organisation/presentation of report.
40-49	A weak project report showing only limited understanding of the problem and superficial knowledge of the relevant literature. Results presented in a confused or inappropriate manner and incomplete or erroneous analysis. Discussion and

	interpretation of result severely limited, including some basic misapprehensions, and lacking any novelty/originality or critical evaluation. General standard of presentation poor.
20-39	An unsatisfactory project containing substantial errors and omissions. Very limited understanding, or in some cases misunderstanding of the problem and very restricted and superficial appreciation of the relevant literature. Very poor, confused and, in some cases, incomplete presentation of the results and limited analysis of the results including some serious errors. Severely limited discussion and interpretation of the results revealing little or no ability to relate experimental results to the existing literature. Very poor overall standard of presentation.
0-19	A very poor project report containing many errors, with almost no understanding of the problem and the literature pertaining to it. Chaotic presentation of results, and in some cases non-existent or inappropriate or plainly wrong analysis. Discussion and interpretation seriously confused or wholly erroneous revealing basic misapprehensions.

6. Programme overview

6.1 Engineering course structure



* Students who take the internship and successfully complete the Senior Sophister year are eligible to exit with the BAI degree.

The integrated BAI/MAI degree programme is professionally accredited by Engineers Ireland and meets the educational requirements for corporate membership of this professional institution and registration as a chartered engineer. Further information can be found at:

<http://www.engineersireland.ie/Membership.aspx>

6.2 Award routes

Students who complete the third year by examination and who choose not to proceed to or fail to complete satisfactorily the fourth year of the Engineering course may elect to be conferred with the ordinary degree of B.A. (this is **NOT** a B.A. in Mathematics).

Those Engineering students who exit the course having obtained credit for years one to four of the course are entitled to the degrees of B.A. and B.A.I. The B.A.I. degree award is based on an overall average mark calculated by combining the average mark achieved in the Junior Sophister examinations (20% towards overall average) and the Senior Sophister examinations (80% towards overall average).

Students who have obtained credit for all five years of the course are entitled to be conferred with the degrees of B.A., B.A.I. and M.A.I. (St.).

6.3 Eligibility for MAI

Note: students must pay a tuition fee for the MAI year:

<https://www.tcd.ie/academicregistry/fees-and-payments/>

6.5 School of Engineering Examination Regulations

<https://www.tcd.ie/Engineering/assets/student-resources/Examination-Regulations.pdf>

6.6 External Examiner

Professor Gary Page, Loughborough University, UK

7. Programme learning outcomes

The Discipline's main objective is the pursuit of excellence in teaching and research in Mechanical & Manufacturing Engineering with the central aim of producing graduate engineers with a capacity for independent thought in problem solving and creative analysis & design.

To achieve this, we must:

- instill in students an enthusiasm for the art and practice of Engineering;
- teach the engineering science and mathematics which underpin the subject areas of Mechanical & Manufacturing Engineering;
- demonstrate the application of these principles to the analysis, synthesis and design of engineering components and systems;
- foster the development of team working skills;
- encourage students to exercise critical judgement and develop the communication skills necessary to make written and oral presentations of their work.

These objectives are underpinned by:

- undertaking both basic and applied research
- provision of advanced facilities for students to undertake graduate research degrees
- the development of academic staff in teaching and research by ensuring that adequate resources are available to assist them
- ensuring that the research work is of the highest international standard by participation in international conferences and publication in learned journals

In addition, we must consider:

- the requirements of the relevant professional institutions
- the needs of Irish and European industry in the undergraduate curriculum

8. Graduate Attributes

Throughout their time at Trinity, our students will be provided with opportunities to develop and evidence achievement of a range of graduate attributes that support their academic growth. Graduate attributes can be achieved in academic and co- and extra-curricular activities.

Trinity Graduate Attributes

To Act Responsibly

A Trinity Graduate

- Acts on the basis of knowledge and understanding
- Is self-motivated and able to take responsibility
- Knows how to deal with ambiguity
- Is an effective participant in teams
- Has a global perspective
- Is ethically aware

To Develop Continuously

A Trinity Graduate

- Has a passion to continue learning
- Builds and maintains career readiness
- Commits to personal development through reflection
- Has the confidence to take measured risks
- Is capable of adapting to change



To Think Independently

A Trinity Graduate

- Has a deep knowledge of an academic discipline
- Can do independent research
- Thinks creatively
- Thinks critically
- Appreciates knowledge beyond their chosen field
- Analyses and synthesises evidence

To Communicate Effectively

A Trinity Graduate

- Can present work through all media
- Is expert in the communication tools of a discipline
- Connects with people
- Listens, persuades and collaborates
- Has digital skills
- Has language skills

9. General programme information

9.1 Modules and module descriptors

Code	Module Title	ECTS	Module	Semester	Coordinator
MEP55E01	Mechanical Engineering Research Project	30	Mandatory	1 & 2	Tim Persoons
ME5MM3	Supply Chain Management	5	Optional	1	Garret O'Donnell
ME5MM7	Risk Management & Safety Assessment Systems	5	Optional	1	Garret O'Donnell
CE7J04	Energy Policy & Building Energy Demand	5	Optional	1	Brian Caulfield
CE7T01	Transportation Policy	5	Optional	1	Brian Caulfield
ME5E4	Introduction to Computational Fluid Mechanics	5	Optional	1	Seamus O'Shaughnessy
MEP55B10	Finite Element Analysis	5	Optional	1	Triona Lally
EEU55C16	Deep Learning	10	Optional	1	Francois Pitie
EEP55C21	Cyber Physical Systems	10	Optional	1 & 2	Harun Šiljak
MEP55B15	Low Carbon Transport Technology	10	Optional	1 & 2	Charles Stuart
MEP55B16	Low Carbon Power Technology	10	Optional	1 & 2	Stephen Spence
MEU55E03	Innovation in Product Development	15	Optional	1 & 2	Kevin Kelly
ME5B03	Advanced Thermal Fluid Design	10	Optional	2	Tony Robinson
MEP55M10	Turbomachinery	5	Optional	2	Stephen Spence
MEP55B14	Engineering Vibrations & Noise	5	Optional	2	John Kennedy
ME5MM1	Additive Manufacturing & Laser Processing	5	Optional	2	Rocco Lupoi
CE7J01	Wind Energy	5	Optional	2	Breiffni Fitzgerald
CE7J06	Wave & Hydro Energy	5	Optional	2	Biswajit Basu
EEP55C24	Simulation for Geophysical Modelling	5	Optional	2	Biswajit Basu
EEP55C25	Algorithms for Quantum Computing	5	Optional	2	Biswajit Basu

Module descriptors are available at the following link:
<https://www.tcd.ie/Engineering/undergraduate/bai/year-5/>

9.2 Coursework requirements

9.2.1 Policy on late submission

Coursework and assessment is an essential part of a student's learning to reinforce aspects of module content. For all years (JS/SS/MAI/MSc) and **ALL** modules within the Discipline of Mechanical and Manufacturing Engineering the following applies:

Individual Coursework

1. Coursework received within two weeks of the due date will be graded, but a penalty will be applied

- Up to 1 week late = minus 15%
- From 1 week to 2 weeks late = minus 25%

2. Any submissions received two weeks after the due date will not be accepted and will receive a zero grade.

3. Submission dates may be extended in exceptional and extenuating circumstances. Students must apply directly (via email) to the module coordinator requesting an extension and provide an explanation and/or evidence for such (e.g. medical cert). Please note that the module coordinator reserves the right to refuse granting of an extension.

Group Coursework

1. The same penalties for late submissions will apply to group coursework as outlined for "Individual Coursework".

2. In addition, certain modules may also adopt an additional grading scheme whereby group projects/assignments will be graded as a function of lecture attendance. Please consult module coordinator.

9.2.2 Policy on participation in continuous assessment-based modules

Students who are absent from a third of their lectures, tutorials or labs of a continuous assessment-based module or who fail to submit a third of the required coursework will be deemed non-satisfactory.

Students reported as non-satisfactory for both semesters of a given year may be refused permission to take their examinations and may be required by the Senior Lecturer to repeat the year.

Further details of the procedure for reporting a student as non-satisfactory can be viewed on the [College Undergraduate Studies](#) website.

10. Prizes and Scholarships

10.1 Prizes

PROFESSOR JOHN FITZPATRICK PRIZE

This prize was established in 2013 by a bequest from the Department of Mechanical and Manufacturing Engineering in memory of the late Professor John Fitzpatrick, former Head of the School of Engineering and Chair of Mechanical Engineering. The prize is awarded annually to the best student in the M.A.I. (St.) degree as determined by the court of examiners. Value, not less than €400.

COLLEN PRIZES

These prizes were founded in 1957 by a gift from L.D.G. Collen, M.A., M.A.I. to encourage interest in current engineering practice. Six prizes are offered annually in the fifth year of the M.A.I. degree course, one in each of the following: (i) Biomedical Engineering, (ii) Civil, Structural and Environmental Engineering, (iii) Computer Engineering, (iv) Electronic and Electrical Engineering, (v) Mechanical and Manufacturing Engineering, (vi) Engineering with Management, for the best project or joint project on the nomination of the Head of stream. Value, €80 each.

M.A.I. STREAM PRIZES

These prizes were established in 2015 in order to recognise the best M.A.I. student in each of the engineering streams and are awarded annually to the student(s) obtaining the highest aggregate of marks at the annual M.A.I.

examination. They are funded by the three departments in the School of Engineering and by the School of Computer Science and Statistics. Value, €300.

10.2 Scholarships

RANALOW SCHOLARSHIPS

These scholarships were founded in 2019 by Mr Brian Ranalow and H&K International Limited and will run for five years until the scheme closes in 2024. Three Ranalow Scholars are awarded annually, from all Engineering study streams, where sufficient merit is shown, by the nomination of trustees on the result of the examination for the degree of B.A.I. for students entering the M.A.I. year. There is a limit of one award per stream. Candidates must have achieved distinction during the engineering course and personal achievements will be considered. The value of each prize is €6,500 (three prizes) to cover expenses in the M.A.I. year of study.

11. Health and Safety

It is the Department's policy to ensure, in so far as possible, the health, safety and welfare of all its staff and students in accordance with the College Safety Policy, the Safety, Health and Welfare at Work Act of 2005 and relevant, later, subsidiary legislation and statutory instruments. All reasonable steps will be taken to ensure that no persons – be it staff, students, or others – health, safety and welfare is put at risk by, or as a result of the activities of the Department.

Students are expected to co-operate by taking proper care for their own health and safety and the safety of others who may be affected by their acts or omissions. Students are expected to follow any instructions in safe practices and procedures and ensure they do not intentionally or recklessly interfere or misuse anything provided in the interest of health safety and welfare. Failure to comply with safe procedures or instructions may result in the commencement of disciplinary procedures by the college.

The Safety, Health and Welfare at Work Act 2005 requires that you take all precautions, as far as is reasonably practicable, to avoid endangering yourself or

others by your activities. The Health and Safety Statement and Codes of Practice for the Department areas are set out in the MMBE Safety Statement. <https://www.tcd.ie/mecheng/safetystatement/safety-statement/> You are required to read, understand, and abide by them. **You must also complete the Safety Statement Acknowledgement Form. Students and staff will be excluded from all laboratories and workshops until they have completed this Acknowledgement.**

The Departmental Safety Statement supplements the University Safety Statement and University Policies which are accessible on the Trinity College Dublin's website.

11.1 Risk Assessments

All members of the college must carry out a risk assessment where their work has the potential for harm to themselves and others.

All experimental work requires a risk assessment that:

- includes and addresses any potential hazard, including lone working.
- is updated if there is a significant change to experimental equipment or procedures.
- is reviewed and updated annually.
- is signed by the responsible PI/supervisor.

Preferably, your risk assessments will be included in a Project Safety Statement. The Project Safety Statement will include but is not limited to the following;

- Title block
 - Student & Lab info
 - Emergency contacts
 - Overview of project
 - Registered users form
 - Activity details
 - SOPs
 - Safety Data Sheets
 - Risk Assessments
- in 5x5 format

Some projects may require multiple risk assessments. Completed Project Safety Statements should be uploaded to the Projects SharePoint. Previous examples can be found on SharePoint.

11.2 New Hazard Safety Document

This document is required for new High-Risk Hazards such as Chemicals, Compressed Gas, Cryogenics, etc. The document should provide an overview of the hazard (why the hazard is required, hazard location, duration the hazard is required for, etc.).

Additionally, an in-depth account of the hazard should include safety information and documentation, MSDS and any additional safety documentation relevant to the hazard. All new hazards will require risk assessments and approval.

11.3 After Hours Working

It is now compulsory to use the SafeZone App while in MMBE labs or offices outside of normal working hours. The normal working hours for the Department are 8am to 5pm, Monday to Friday. Outside of MMBE normal working hours, the use of SafeZone app is mandatory. Extended hours for the Department are 5pm to 10pm, Monday to Friday and 10am to 4pm Saturday and Sunday. There will be no access to Parsons Building outside of these hours.

Working on experimental systems (or machinery) outside normal working hours is not permitted without prior authorization of the project supervisor (or person-in-charge) after he/she has conducted a full assessment of risk and devised a safe system of work.

No staff member, postdoctoral worker or student will be permitted to carry out experimental or technical work of any kind in the Department at any time outside normal working hours unless there is another person close by, who is aware of their presence so that they can summon assistance in the event of an accident.

Isolated individuals must never carry out potentially hazardous work or activities and should apply for Lone Working approval.

Please download the SafeZone app and see the University lone working policy and the MMBE Protocol for After Hours Working.

11.4 General Safety Action

When you enter a building in the University, MMBE or otherwise:

- Find out how to get out in an emergency.
- Know the location of the emergency evacuation assembly point.
- Know where the nearest alarm call point is.
- Read the hazard information signs (fire, first aid, chemical, biological, radiation, laser etc.).
- Emergency numbers are:
 - 1999 or 01 8961999 – Main Campus
 - 3999 or 01 8963999 – TBSI

11.5 Fire Action

What to do if you discover a fire:

- Raise the alarm at the nearest break glass unit or alarm call point.
- Leave your building immediately using the nearest exit route.
- Do not use lifts.
- Close doors behind you as you leave.
- Do not take risks.
- Notify Security at 1999 or mobile 01 896 1999, informing them that the alarm has been raised and in which area. TBSI numbers are: 3999 or 01 8963999.
- Notify a Fire Warden of your findings if there is one outside the building.
- Report to your designated Assembly Point, do not congregate at the building entrance.
 - **Parsons Building & SNIAM** **Point D**
 - Grass triangle ('Flat Iron') at east end of Boardwalk (College Park).
 - **WATTS** **Point E**
 - Between the Lloyd and O'Reilly Buildings, near the Arches.
 - **TBSI** **Points G and F**

- To the sides of the Institute on Cumberland St South and Sandwich Street.

What to do if the fire alarm sounds

- Obey, promptly, all instructions given by the Fire Wardens/Safety Officer.
- Leave your building immediately using the nearest exit route.
- Do not use lifts.
- Close doors behind you as you leave.
- Do not take risks.
- Move away from the building.
- Report to your designated Assembly Point, do not congregate at the building entrance.
- Do not re-enter building for any reason until authorised to do so and fire alarm is switched off.



11.6 First Aid

First Aid will not take the place of professional treatment. In the case of minor injuries such as cuts or burns, assistance may be sought from members of the Department who possess a qualification in First Aid. For serious injuries during normal office hour's emergency medical attention can be obtained from the University Health Services by contacting Ext. 1556.

Updated lists of first aiders in the Department are located near first aid boxes installed throughout the Department. Make sure to familiarise with the location of the nearest first aid box.

Current MMBE first aiders can be contacted through the Mechanical workshop.

Should the local first aiders be unavailable then the emergency services can be contacted on Ext. 1999 for the Main campus or 3999 for the TBSI building.

11.7 MMBE Safety Contacts

First Aid

- Mr. Michael Reilly ext. 1557
- Mr. Alex Kearns ext. 1463 (workshop)

MMBE Safety Officer

- Mr. Gordon O'Brien ext. 2396 email: gordon.obrien@tcd.ie

Specialist Safety Area contacts (Chemical, Laser, Electrical, Fire Wardens, etc.) and University Safety contacts can be found in Section 6 of the MMBE Safety Statement.

11.7 Safety Links

MMBE Website Safety Section

- <https://www.tcd.ie/mecheng/safetystatement/>

Projects SharePoint Safety Section

- <https://tcdud.sharepoint.com/sites/TCDGroup-PeterandGerry/Safety/Forms/AllItems.aspx>

SafeZone App

- <https://safezoneapp.com/>

MMBE Lone and Out-of-Hours Working Policy

- <https://www.tcd.ie/mecheng/safetystatement/mmbe-lone-and-out-of-hours-working/>

Risk Assessments

- <https://www.tcd.ie/mecheng/safetystatement/risk-assessments/>
- <https://tcdud.sharepoint.com/:f:/r/sites/TCDGroup-PeterandGerry/Safety/Sample%20Risk%20Assessments?csf=1&web=1&e=Fwufe3>

Risk Assessment / Project Safety Statement Upload

- <https://tcdud.sharepoint.com/:f:/r/sites/TCDGroup-PeterandGerry/Safety/Completed%20Risk%20Assessments?csf=1&web=1&e=oN6i3X>

University Safety Office

- <https://www.tcd.ie/safetyoffice/>

12. Student Supports

Trinity College provides a wide range of [personal and academic supports](#) for its students.

12.1 Tutors

A tutor is a member of the academic staff who is appointed to look after the general welfare and development of the students in his or her care. Whilst your tutor may be one of your lecturers, the role of tutor is quite separate from the teaching role. Tutors are a first point of contact and a source of support, both on arrival in college and at any time during your time in college. They provide confidential help and advice on personal as well as academic issues or on anything that has an impact on your life. They will also, if necessary, support and defend your point of view in your relations with the college. If you cannot find your own tutor, you can contact the Senior Tutor (tel: 01 896 2551). Senior Tutor's website:

<https://www.tcd.ie/seniortutor/>

12.2 Student Counselling Service

The Student Counselling Service, 3rd Floor, 7-9 South Leinster Street, College.

Opening hours: 9:15 am to 5:10 pm Monday to Friday during lecture term.

Tel: 01 896 1407

Email: student-counselling@tcd.ie

Web: http://www.tcd.ie/Student_Counselling.

12.3 College Health Service

The Health Centre is situated on Trinity Campus in House 47, a residential block adjacent to the rugby pitch.

Opening hours: 09.00 - 16.40 with emergency clinics from 09.00 - 10.00.

Tel: 01 896 1591 or 01 896 1556

Web: <https://www.tcd.ie/collegehealth/>

12.4 Chaplaincy

The Chaplains are representatives of the main Christian Churches in Ireland who work together as a team, sharing both the college chapel and the chaplaincy in House 27 for their work and worship.

Steve Brunn (Anglican Chaplain): brunns@tcd.ie; tel: 01 896 1402

Julian Hamilton (Methodist Chaplain): julian.hamilton@tcd.ie; tel: 01 896 1901

Alan O'Sullivan (Catholic Chaplain): aeosulli@tcd.ie; tel: 01 896 1260

Peter Sexton (Catholic Chaplain): sextonpe@tcd.ie; tel: 01 896 1260

Web: <https://www.tcd.ie/Chaplaincy/>

12.5 Trinity Disability Service

Declan Treanor, Disability Services Coordinator

Room 3055, Arts Building

Email: mdtreanor@tcd.ie

Tel: 01 896 3475

Web: <https://www.tcd.ie/disability/>

12.6 Niteline

A confidential student support line run by students for students which is open every night of term from 9pm to 2.30am.

Tel: 1800 793 793

Web: <https://niteline.ie/>

12.7 Students' Union Welfare Officer

House 6, College

Email: welfare@tcdsu.org

Web: <https://www.tcdsu.org/welfare>

12.8 Maths Help Room

The Maths Help Room offers free assistance to students who are having difficulty with Mathematics, Statistics or related courses. It runs every week of term and at certain times out of term. The Maths help-room is a drop in

centre, where you can bring in a maths or stats question and get some help. The Help room is located in the New Seminar Room in House 20 in the School of Mathematics in the Hamilton Building.

Web: <https://www.maths.tcd.ie/outreach/helproom/>

12.9 Undergraduate Programming Centre

The Programming Centre is available to all Computer Engineering students free of charge. The centre operates as a drop-in service where you can get help with any problems you might have with programming in your courses.

For further information, please visit <http://www.scss.tcd.ie/ugpc/>.

12.10 Student Learning Development

Student Learning Development provides learning support to help students reach their academic potential. They run workshops, have extensive online resources and provide individual consultations. To find out more, visit their website at <https://student-learning.tcd.ie/>.

12.11 Student 2 Student (S2S)

S2S offers trained Peer Supporters for any student in the College who would like to talk confidentially with another student, or just to meet a friendly face for a chat. This service is free and available to everyone. To contact a Peer Supporter you can email student2student@tcd.ie. Web:

<https://student2student.tcd.ie/peer-support/>.

12.12 Trinity Careers Service

As a Trinity College Dublin student you have access to information, support and guidance from the professional team of Careers Consultants throughout your time at Trinity and for a year after you graduate. The support offered includes individual career guidance appointments, CV and LinkedIn profile clinics and practice interviews. The Trinity Careers Service and the School of Computer Science and Statistics also hold an annual Careers Fair in October which gives you the opportunity to find out about career prospects in a wide range of companies..

- Visit <https://www.tcd.ie/Careers/> for career and job search advice
- Sign into [MyCareer](#) to book appointments, find information about vacancies and bursaries, and book your place on upcoming employer events.
- Follow the service on Instagram for career news and advice
[@trinity.careers.service](#)

12.13 Co-curricular activities

Trinity College has a significant number of diverse student societies which are governed by the Central Societies Committee. They provide information on the societies including how to get involved and even how to start your own society. See <http://trinitysocieties.ie/> for more details. Students are encouraged to get involved.

Trinity College also has a huge range of sports clubs which are governed by the Dublin University Athletic Club (DUCAC). See http://www.tcd.ie/Sport/student-sport/ducac/?nodeId=94&title=Sports_Clubs for more details.

12.14 Trinity College Students' Union

The Trinity College Students' Union (TCDSU) is run for students by students. TCDSU represent students at college level, fight for students' rights, look after students' needs, and are here for students to have a shoulder to cry on or as a friend to chat with over a cup of tea. Students of Trinity College are automatically members of TCDSU. It has information on accommodation, jobs, campaigns, as well as information pertaining to education and welfare. For more information see <https://www.tcdsu.org/>.

13. General Regulations

13.1 Attendance requirements

Please note that attendance at lectures, tutorials and laboratory sessions is mandatory as is the submission of all work subject to continuous assessment. Students who prove lacking in any of these elements may be

issued with a Non-Satisfactory form and asked for an explanation for their poor attendance or performance. Students who do not provide a satisfactory explanation can be prevented from sitting the annual examinations. The following is an extract from the College Calendar outlining the College policy on attendance and related issues:

18 Students must attend College during the teaching term. They must take part fully in the academic work of their class throughout the period of their course. Lecture timetables are published through my.tcd.ie and on school or department notice-boards before the beginning of Michaelmas teaching term. The onus lies on students to inform themselves of the dates, times and venues of their lectures and other forms of teaching by consulting these timetables.

19 The requirements for attendance at lectures and tutorials vary between the different faculties, schools and departments. Attendance is compulsory for Junior Freshers in all subjects. The school, department or course office, whichever is relevant, publishes its requirements for attendance at lectures and tutorials on notice-boards, and/or in handbooks and elsewhere, as appropriate. For professional reasons lecture and tutorial attendance in all years is compulsory in the School of Engineering, the School of Dental Science, the School of Medicine, the School of Nursing and Midwifery, the School of Pharmacy and Pharmaceutical Sciences, for the B.S.S. in the School of Social Work and Social Policy, and for the B.Sc. in Clinical Speech and Language Studies. Attendance at practical classes is compulsory for students in all years of the moderatorship in drama and theatre studies and drama studies two-subject moderatorship.

20 In special circumstances exemption from attendance at lectures for one or more terms may be granted by the Senior Lecturer; application for such exemption must be made in advance through the tutor. Students granted exemption from attendance at lectures are liable for the same annual fee as they would pay if attending lectures. Students thus exempted must perform such exercises as the Senior Lecturer may require. If these exercises are specially provided, an additional fee is usually charged.

21 Students who in any term have been unable, through illness or other unavoidable cause, to attend the prescribed lectures satisfactorily, may be granted credit for the term by the Senior Lecturer and must perform such supplementary exercises as the Senior Lecturer may require. The onus for informing the Senior Lecturer of illness rests with individual students who should make themselves familiar with the general and more detailed school or course regulations regarding absence from lectures or examinations through illness. In addition, issues with students may arise from time to time, which in the opinion of the Senior Lecturer affect a student's ability or suitability to participate in his or her course. If required by the Senior Lecturer, students (other than those subject to §28 below) are obliged to undergo a medical examination or assessment by a doctor or specialist nominated by the Senior Lecturer at the expense of the College for the purpose of obtaining an opinion as to the student's medical fitness to continue with his/her studies or as to his/her ability or suitability to participate in his/her course to the standards required by the College. Students found to be unfit following such a medical examination or assessment may be required to withdraw until such times as they are deemed fit to resume their studies. Students who fail to attend such a medical examination or assessment within a reasonable period may be required by the Senior Lecturer to withdraw until such time as they attend the aforementioned medical examination or assessment and are deemed fit to resume their studies.

22 Students who are unable to attend lectures (or other forms of teaching) due to their disability should immediately contact the Disability Service to discuss the matter of a reasonable accommodation. Exceptions to attendance requirements for a student, on disability grounds, may be granted by the Senior Lecturer following consultation with the student's school, department or course office, and the Disability Service.

23 Students who find themselves incapacitated by illness from attending lectures (or other forms of teaching) should immediately see their medical advisor and request a medical certificate for an appropriate period. Such medical certificates should be copied to the school, department or course

office, as appropriate, by the student's tutor.

Course work

24 Students may be required to perform course work as part of the requirements of their course of study. The assessment of course work may be based on the writing of essays, the sitting of tests and assessments, attendance at practical classes and field trips, the keeping and handing in of practical books, the carrying out of laboratory or field projects, and the satisfactory completion of professional placements. The school, department or course office, whichever is appropriate, publishes its requirements for satisfactory performance of course work on school notice-boards and/or in handbooks and elsewhere, as appropriate.

Non-satisfactory attendance and course work

25 All students must fulfil the course requirements of the school or department, as appropriate, with regard to attendance and course work. Where specific requirements are not stated, students may be deemed non-satisfactory if they miss more than a third of their course of study or fail to submit a third of the required course work in any term.

26 At the end of the teaching term, students who have not satisfied the school or department requirements, as set out in §§19, 24 and 25 above, may be reported as non-satisfactory for that term. Students reported as non-satisfactory for the Michaelmas and Hilary terms of a given year may be refused permission to take their annual examinations and may be required by the Senior Lecturer to repeat their year. Further details of procedures for reporting a student as non-satisfactory are given on the College website at:

<https://www.tcd.ie/undergraduate-studies/academic-progress/>

13.2 Absence from examinations

The following is an extract from the College Calendar outlining the College policy on absence from Examinations:

35 Students who consider that illness may prevent them from attending an examination (or any part thereof) should consult their medical advisor and request a medical certificate for an appropriate period. If a certificate is granted, it must be presented to the student's tutor within three days of the beginning of the period of absence from the examination. The tutor must immediately forward the certificate to the Senior Lecturer. Medical certificates must state that the student is unfit to sit examinations. Medical certificates will not be accepted in explanation for poor performance.

(a) Where a student becomes ill prior to the commencement of the annual examination, they may seek permission through their tutor from the Senior Lecturer to withdraw and take the supplemental examination in that year.

(b) Where illness prevents a student from completing any part of the annual examination and they withdraw from the examination, permission may be given for a supplemental examination to be taken in that year.

(c) Where illness occurs during the writing of an examination paper, it should be reported immediately to the chief invigilator. The student will then be escorted to the College Health Centre. Every effort will be made to assist the student to complete the writing of the examination paper.

Students who consider that other grave cause beyond their control may prevent them from attending an examination (or any part thereof) should consult their tutor who should make representations immediately to the Senior Lecturer that permission be granted for absence from the examination. Regulations (a) and (b) also apply in the case of absence from annual examinations due to other grave cause beyond a student's control.

Regulations (a) and (b) apply only to examinations which are non-final non-degree examinations. However, regulations (a) and (b) apply in all years of those professional courses which permit supplemental examinations in final or degree years.

13.3 Plagiarism

In the academic world, the principal currency is *ideas*. As a consequence, you can see that *plagiarism* – i.e. passing off other people’s ideas as your own– *is tantamount to theft*. It is important to be aware the plagiarism can occur knowingly or unknowingly, and the offence is in the action not the intent.

Plagiarism is a serious offence within College and the College’s policy on plagiarism is set out in a central online repository hosted by the Library which is located at <http://tcd-ie.libguides.com/plagiarism>. This repository contains information on what plagiarism is and how to avoid it, the College Calendar entry on plagiarism and a matrix explaining the different levels of plagiarism outlined in the Calendar entry and the sanctions applied.

Undergraduate and postgraduate new entrants and existing students, are required to complete the online tutorial ‘**Ready, Steady, Write**’. Linked to this requirement, all cover sheets which students must complete when submitting assessed work, must contain the following declaration:

I have read and I understand the plagiarism provisions in the General Regulations of the University Calendar for the current year, found at: <http://www.tcd.ie/calendar>

I have also completed the Online Tutorial on avoiding plagiarism ‘Ready, Steady, Write’, located at <http://tcd-ie.libguides.com/plagiarism/ready-steady-write>

Plagiarism detection software such as “Turnitin” and Blackboard’s “SafeAssign” may be used to assist in automatic plagiarism detection. Students are encouraged to assess their own work for plagiarism prior to submission using this or other software.

13.4 University regulations, policies and procedures

Academic Policies - <https://www.tcd.ie/teaching-learning/academic-policies/>

Student Complaints Procedure -

https://www.tcd.ie/about/policies/160722_Student%20Complaints%20Procedure_PUB.pdf

Dignity and Respect Policy - <https://www.tcd.ie/equality/policy/dignity-respect-policy/>

13.5 Data protection

A short guide on how College handles student data is available here:

https://www.tcd.ie/info_compliance/data-protection/student-data/

14. General Information

14.1 Feedback and evaluation

The Staff/Student Liaison Committee meets once a semester to discuss matters of interest and concern to students and staff. It comprises class representatives from each year. A programme level survey is issued online to students towards the end of semester 2.

14.2 European Credit Transfer System (ECTS)

The European Credit Transfer and Accumulation System (ECTS) is an academic credit system based on the estimated student workload required to achieve the objectives of a module or programme of study. It is designed to enable academic recognition for periods of study, to facilitate student mobility and credit accumulation and transfer. The ECTS is the recommended credit system for higher education in Ireland and across the European Higher Education Area.

The ECTS weighting for a module is a measure of the student effort or workload required for that module, based on factors such as the number of contact hours, the number and length of written or verbally presented assessment exercises, class preparation and private study time, laboratory classes, examinations, clinical attendance, professional training placements, and so on as appropriate. There is no intrinsic

relationship between the credit volume of a module and its level of difficulty.

The European norm for full-time study over one academic year is 60 credits. 1 credit represents 20-25 hours estimated student effort, so a 5-credit module will be designed to require 100-125 hours of student effort including class contact time, assessments and examinations.

ECTS credits are awarded to a student only upon successful completion of the programme year. Progression from one year to the next is determined by the programme regulations. Students who fail a year of their programme will not obtain credit for that year even if they have passed certain component. Exceptions to this rule are one-year and part-year visiting students, who are awarded credit for individual modules successfully completed.

14.3 Guidelines on Grades

The following Descriptors are given as a guide to the qualities that assessors are seeking in relation to the grades usually awarded. A grade is the anticipated degree class based on consistent performance at the level indicated by an individual answer. In addition to the criteria listed examiners will also give credit for evidence of critical discussion of facts or evidence.

Link to College guidelines for writing documents:

<https://www.tcd.ie/CAPSL/TIC/accessible-info/word/>

Guidelines on Grades for Essays and Examination Answers

Mark Rang	Criteria
90-100	IDEAL ANSWER; showing insight and originality and wide knowledge. Logical, accurate and concise presentation. Evidence of reading and thought beyond course content. Contains particularly apt examples. Links materials from lectures, practicals and seminars where appropriate.
80-89	OUTSTANDING ANSWER; falls short of the 'ideal' answer either on aspects of presentation or on evidence of reading and thought beyond the course. Examples, layout and details are all
70-79	MAINLY OUTSTANDING ANSWER; falls short on presentation and reading or thought beyond the course but retains insight and originality typical of first class work.
65-69	VERY COMPREHENSIVE ANSWER; good understanding of concepts supported by broad knowledge of subject. Notable for synthesis of information rather than originality. Sometimes with evidence of outside reading. Mostly accurate and logical with appropriate examples. Occasionally a lapse in detail.
60-64	LESS COMPREHENSIVE ANSWER; mostly confined to good recall of coursework. Some synthesis of information or ideas. Accurate and logical within a limited scope. Some lapses in
55-59	SOUND BUT INCOMPLETE ANSWER; based on coursework alone but suffers from a significant omission, error or misunderstanding. Usually lacks synthesis of information or ideas. Mainly logical and accurate within its limited scope and
50-54	INCOMPLETE ANSWER; suffers from significant omissions, errors and misunderstandings, but still with understanding of main concepts and showing sound knowledge. Several lapses
45-49	WEAK ANSWER; limited understanding and knowledge of subject. Serious omissions, errors and misunderstandings, so that answer is no more than adequate.

40-44	VERY WEAK ANSWER; a poor answer, lacking substance but giving some relevant information. Information given may not be in context or well explained but will contain passages and words which indicate a marginally adequate understanding.
35-39	MARGINAL FAIL; inadequate answer, with no substance or understanding, but with a vague knowledge
30-34	CLEAR FAILURE; some attempt made to write something relevant to the question. Errors serious but not absurd. Could also be a sound answer to the misinterpretation of a question?
0-29	UTTER FAILURE; with little hint of knowledge. Errors serious and absurd. Could also be a trivial response to the misinterpretation of a question?

14.4 Emergency procedure

In the event of an emergency, **dial Security Services on extension 1999.**

Security Services provide a 24-hour service to the college community, 365 days a year. They are the liaison to the Fire, Garda and Ambulance services and all staff and students are advised to always telephone extension 1999 (+353 1 896 1999) in case of an emergency.

Should you require any emergency or rescue services on campus, you must contact Security Services. This includes chemical spills, personal injury or first aid assistance. It is recommended that all students save at least one emergency contact in their phone under ICE (in Case of Emergency).

