



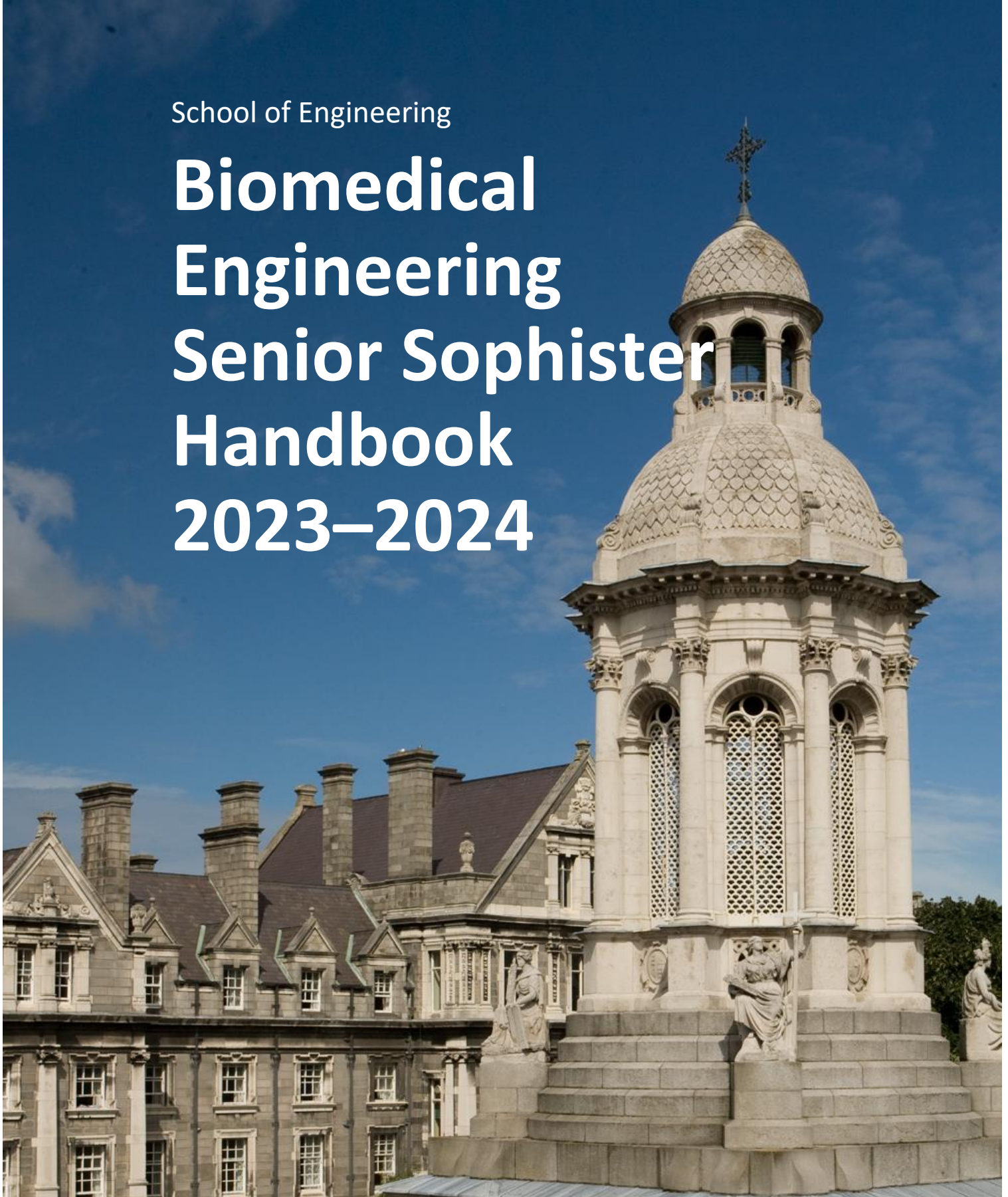
Trinity College Dublin

Coláiste na Tríonóide, Baile Átha Cliath

The University of Dublin

School of Engineering

Biomedical Engineering Senior Sophister Handbook 2023–2024



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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 to the Senior Sophister Year in Biomedical Engineering

As students of the Biomedical Engineering stream within the School of Engineering, you are among the select few who have joined the biomedical engineering community at Trinity College Dublin for an education that will enable you to become the next leaders in this ever expanding and evolving field.

Some of the most exciting work in engineering today takes place at the intersection of disciplines. Research in biomedical engineering is an example of where the biological, physical and digital worlds intersect and where you have the opportunity to have a profound impact on society.

Engineering is not just about crunching numbers or solving problems; it is seeing how problems affect society and how society actually changes because of the solutions you provide. You have an opportunity here as students in biomedical engineering to become involved in that community, so that, as you move into your professional life, you will become a leader who has an impact on the human condition. To see this impact, I recommend you watch the following videos at:

<http://students.embs.org/>

You are part of a discipline that offers great opportunities for learning and advancement within Ireland's premier university. You are now part of the Trinity Centre for Biomedical Engineering. The Centre brings together over 30 academics from the Schools of Engineering, Natural Sciences, Dental Sciences and Medicine in Trinity and colleagues from the Royal College of Surgeons in Ireland, Dublin City University and University College Dublin. There are also over 100 postdoctoral, PhD and MSc researchers working in the Centre. All of these researchers are involved in exciting new developments in biomedical engineering ranging from developing new materials for use in cardiac care, analysing minute electrical signal changes in the brain for neurological diagnosis to artificially growing new tissue for organ transplantation. The Trinity Centre for Biomedical Engineering has extensive clinical research in all the five teaching hospitals in Dublin (St James's Hospital, Tallaght Hospital, St Vincent's

University Hospital, The Mater Misericordiae Hospital and Beaumont Hospital). As a member of this biomedical community, use the opportunity to learn from activities in the Trinity Centre for Biomedical Engineering, so that you can relate your course material to the real clinical challenges that are being researched and the solutions being generated.

The Trinity Centre for Biomedical Engineering is based in the Trinity Biomedical Sciences Institute and many of its laboratories are located here. You will be sent emails of seminars, news, and other developments. Keep up to date with these and your studies will become more fruitful and relevant. You can also keep up to date with TCBE news on twitter, <https://twitter.com/tcdTCBE>

This handbook contains information regarding the course including modules, assessment, course regulations, faculty members and important contact details.

On behalf of all the lecturers and staff, I would like to wish you every success. We look forward to you becoming part of the Trinity College Biomedical Engineering family as you embark on making your mark on society at large.

If you have any questions or comments, please do not hesitate to contact us.

Alejandro Lopez Valdes

Professor Bruce Murphy

Director- Discipline of Biomedical Engineering

Professor Alejandro Lopez Valdes

Senior Sophister Coordinator

1.1 Biomedical Engineering – Mission Statement

The Trinity Centre for Biomedical Engineering (TCBE) in the School of Engineering at Trinity College Dublin carries out world class research in four research themes: (1) Tissue Engineering & Regenerative Medicine, (2) Medical Devices & Advanced Drug Delivery, (3) Biomechanics & Mechanobiology and (4) Neural Engineering. These themes are based on the intersection of biomedical science and engineering and form the foundation for advances in external and implantable devices, surgical and medical device design, as well as informing clinical studies and interventions in ageing, neurodegeneration and rehabilitation. The Centre provides a structure to bring bioengineers, basic scientists and clinicians together to focus on important clinical needs.

The TCBE also has a long and distinguished tradition in postgraduate education, combining fundamental research with translation to clinical practice. The Biomedical Engineering stream extends this to the undergraduate BA/MAI programme within the School of Engineering. The main objective of this stream is the pursuit of excellence in teaching and research in Biomedical 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:

- instil in students an enthusiasm for the art and practice of Biomedical Engineering;
- teach engineering, medical sciences and mathematics which underpin the subject areas of Biomedical Engineering;
- demonstrate the application of these principles to the analysis, synthesis and design of biomedical engineering components and systems;
- foster the development of team working skills;
- encourage students to exercise critical judgment and develop 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 peer-reviewed scientific journals.

In addition, we must consider:

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

2. Contacts

2.1 Coordinator

Staff name	Email	Location
Prof. Alejandro Lopez Valdes	alejandro.lopez@tcd.ie	TCIN, Lloyd Building

2.2 Administrative contacts

Staff name	Email	Location
Ms. Judith Lee	julee@tcd.ie	Reception, Parsons Building

2.3 SS Year Student Ambassadors

While the stream coordinator and administrator will be able to assist you with all your queries, you may prefer to speak with former students to get a better idea of what it is like from somebody who has recently been through the process.

2.4 Department Organisational Structure



3. Key dates

3.1 Academic year calendar

Trinity College Dublin		The University of Dublin		
Academic Year Calendar 2023/24				
Academic Calendar/Week	Week beginning	2023/24 Academic Year Calendar		Term / Semester
		UG continuing years / PG all years	UG new first years	
1	28-Aug-23	Reassessment * (Semesters 1 & 2 of 2022/23)		←Michaelmas Term begins/Semester 1 begins
2	04-Sep-23	Orientation (Postgraduates, Visiting & Erasmus); Marking/Results		
3	11-Sep-23	Teaching and Learning		←Michaelmas teaching term begins
4	18-Sep-23	Teaching and Learning	Orientation (if UG)	
5	25-Sep-23	Teaching and Learning	Teaching and Learning	
6	02-Oct-23	Teaching and Learning	Teaching and Learning	
7	09-Oct-23	Teaching and Learning	Teaching and Learning	
8	16-Oct-23	Teaching and Learning	Teaching and Learning	
9	23-Oct-23	Study/Review	Study/Review	
10	30-Oct-23	Teaching and Learning (Monday, Public Holiday)	Teaching and Learning (Monday, Public Holiday)	
11	06-Nov-23	Teaching and Learning	Teaching and Learning	
12	13-Nov-23	Teaching and Learning	Teaching and Learning	
13	20-Nov-23	Teaching and Learning	Teaching and Learning	
14	27-Nov-23	Teaching and Learning	Teaching and Learning	
15	04-Dec-23	Revision	Revision	
16	11-Dec-23	Assessment *	Assessment * **	←Michaelmas term ends Sunday 17 December 2023/Semester 1 ends
17	18-Dec-23	Christmas Period - College closed	Christmas Period - College closed	
18	25-Dec-23	22 December 2023 to 1 January 2024 inclusive	22 December 2023 to 1 January 2024 inclusive	
19	01-Jan-24			
20	08-Jan-24	Foundation Scholarship Examinations ^	Foundation Scholarship Examinations ^	
21	15-Jan-24	Marking/Results	Marking/Results	←Hilary Term begins/Semester 2 begins
22	22-Jan-24	Teaching and Learning	Teaching and Learning	←Hilary teaching term begins
23	29-Jan-24	Teaching and Learning	Teaching and Learning	
24	05-Feb-24	Teaching and Learning (Monday, Public Holiday)	Teaching and Learning (Monday, Public Holiday)	
25	12-Feb-24	Teaching and Learning	Teaching and Learning	
26	19-Feb-24	Teaching and Learning	Teaching and Learning	
27	26-Feb-24	Teaching and Learning	Teaching and Learning	
28	04-Mar-24	Study/Review	Study/Review	
29	11-Mar-24	Teaching and Learning	Teaching and Learning	
30	18-Mar-24	Teaching and Learning (Monday, Public Holiday)	Teaching and Learning (Monday, Public Holiday)	
31	25-Mar-24	Teaching and Learning (Friday, Good Friday)	Teaching and Learning (Friday, Good Friday)	
32	01-Apr-24	Teaching and Learning (Monday, Easter Monday)	Teaching and Learning (Monday, Easter Monday)	
33	08-Apr-24	Teaching and Learning	Teaching and Learning	
34	15-Apr-24	Revision	Revision	←Hilary term ends Sunday 21 April 2024
35	22-Apr-24	Trinity Week (Monday, Trinity Monday)	Trinity Week (Monday, Trinity Monday)	←Trinity Term begins
36	29-Apr-24	Assessment *	Assessment *	
37	06-May-24	Marking/Results (Monday, Public Holiday)	Marking/Results (Monday, Public Holiday)	
38	13-May-24	Marking/Results	Marking/Results	
39	20-May-24	Marking/Results	Marking/Results	
40	27-May-24	Research	Research	←Trinity term ends Sunday 2 June 2024/Semester 2 ends
41	03-Jun-24	Research (Monday, Public Holiday)	Research (Monday, Public Holiday)	
42	10-Jun-24	Research	Research	
43	17-Jun-24	Research	Research	
44	24-Jun-24	Research	Research	
45	01-Jul-24	Research	Research	
46	08-Jul-24	Research	Research	
47	15-Jul-24	Research	Research	
48	22-Jul-24	Research	Research	
49	29-Jul-24	Research	Research	
50	05-Aug-24	Research (Monday, Public Holiday)	Research (Monday, Public Holiday)	
51	12-Aug-24	Research	Research	
52	19-Aug-24	Research	Research	

* Note: additional/contingency days may be required outside of the formal assessment/assessment weeks.
 ** Note: it may be necessary to hold a small number of IF examinations/assessments outside of semester 1.
 ^ Note: it may be necessary to hold some examinations/assessments in the preceding week.

4. Trinity College Campus Map

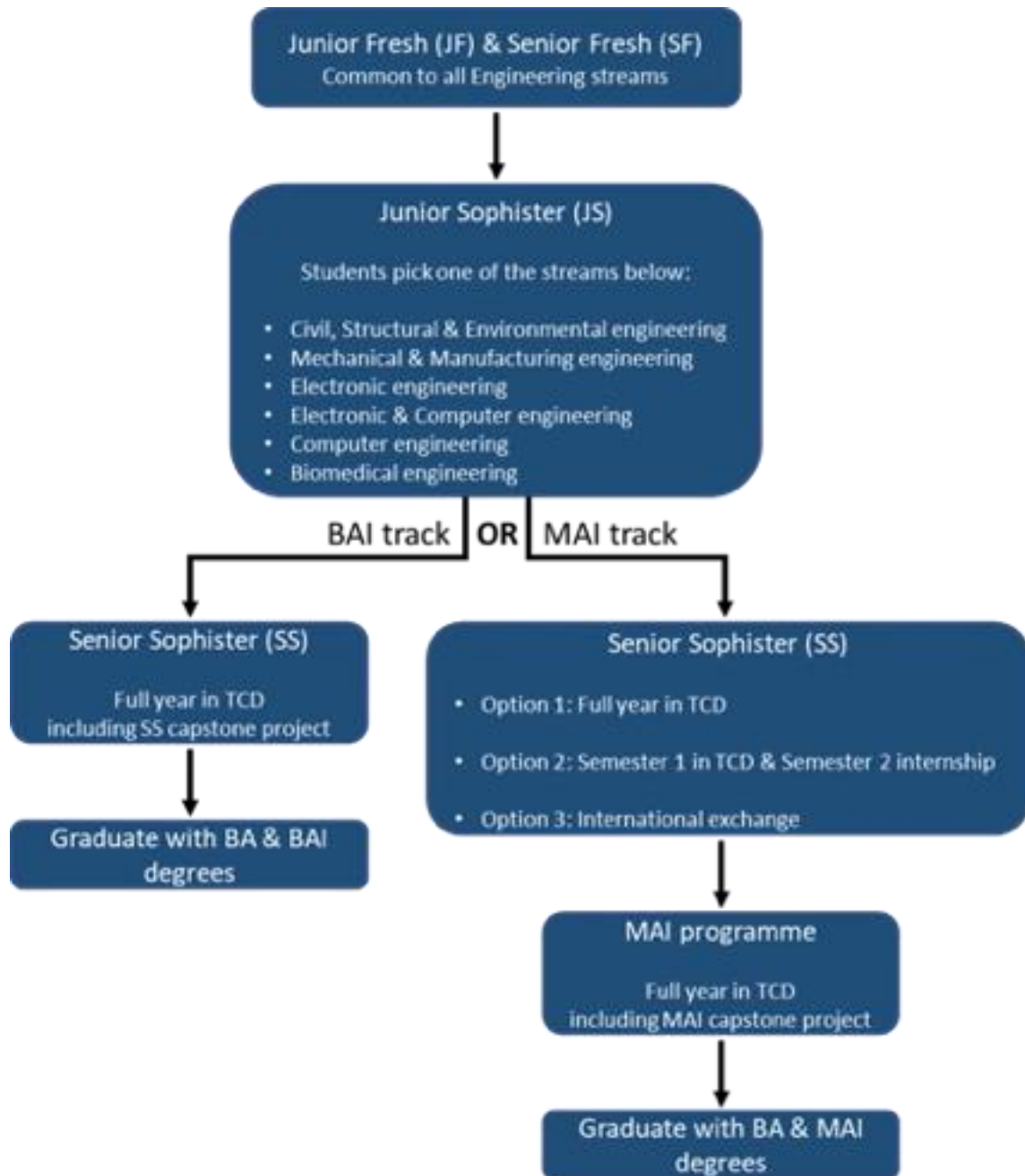


5. Timetable

See School of Engineering Website – current student’s section

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 or Engineering with Management 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 (30% towards overall average) and the Senior Sophister examinations (70% towards overall average).

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

Note that for the B.A. and B.A.I. award route students must have fulfilled all 3 criteria below:

1. obtained the required credit for years 1 to 4 of the course.
2. successfully completed a Senior Sophister capstone project.
3. spent their final semester in the University of Dublin, Trinity College.

Students on the MAI track who take the Senior Sophister internship and successfully complete the Senior Sophister year have previously, in some cases, been eligible to exit with the BA and BAI degrees following review by the Head of Discipline of Mechanical, Manufacturing, & Biomedical Engineering and the School of Engineering Director for Undergraduate Teaching & Learning (DUTL). However, this path to B.A. and B.A.I. awards is under review for the academic 2023-24 and students are strongly discouraged from pursuing this path. Students risk having to do an additional capstone project to fulfil the award criteria detailed above.

6.3 Eligibility for MAI

International exchange (MAI track)

To be eligible to apply for an [international exchange](#) in the Senior Sophister (4th) year of the engineering course, students must have a minimum grade of 60 per cent at the first sitting of the Junior Sophister Engineering examinations. Those required to take reassessment for any Junior Sophister Engineering module(s) will be deemed ineligible to apply. No exceptions to this rule will be considered. More information is available [here](#).

Internship (MAI track)

To be eligible to apply for the [MEU44E04 Industrial Partnership/Internship module](#) in the second semester of the Senior Sophister (4th) year of the engineering course, students must have a minimum grade of 60 per cent at the first sitting of the Junior Sophister Engineering examinations. Those required to take reassessment for any Junior Sophister Engineering module(s) will be deemed ineligible to apply. No exceptions to this rule will be considered. More information is available [here](#).

MAI (integrated masters)

Students must pay a tuition fee for the MAI year. More information is available [here](#). To be eligible to proceed to the fifth year of the M.A.I. programme, students in the Senior Sophister year must achieve a minimum overall BAI mark of 60 per cent for the combined Junior Sophister and Senior Sophister years (on a 30:70 basis) at the first attempt at the annual assessment session of the BAI degree year. Students eligible for MAI will be sent a list of available MAI projects at the end of the Senior Sophister year and asked to rank their preferences from 1 to 10. The allocation is made based on a student's Junior Sophister ranking.

6.4 School of Engineering Examination Regulations

These can be found on the School of Engineering Website.

6.5 External Examiner

The external examiner for Biomedical Engineering is Prof. Clark T. Hung, from Columbia University in the City of New York ([Clark T. Hung | Biomedical Engineering \(columbia.edu\)](#)). For policies and procedures regarding how student assessed work is shared with the external examiner please read <https://www.tcd.ie/teaching-learning/academic-policies/assets/external-examiners-jan2021.pdf>

7. Programme learning outcomes

Upon successful completion of the degree programme, our biomedical engineering graduates are capable of dealing with complex multi-disciplinary problems in medicine, physiology and biological systems but also with ill-defined problems. They can design to professional codes of practice within the regulatory standards of medical devices and can deal with new problems from first principles relying on their knowledge of engineering science. In the broadest sense applying to the biomedical stream, on successful completion of the programme biomedical engineering graduates will be first and foremost engineers and be able to:

- Explain the basic anatomy, physiology and functioning of the human body
- Analyse medical or clinical problems from an engineering perspective
- Model the behaviour of medical, physiological and biological systems
- Provide engineering solutions to clinical and biological problems
- Engage in research within medical and healthcare sectors
- Design devices, instrumentation for use in medical and clinical applications
- Understand and explain the operation of a range of medical equipment
- Interpret and apply standards and specifications in the medical realm
- Interact and communicate with non-engineering but scientific professionals

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

In your studies you should aim to work a minimum of 50 hours per week. With a timetabled schedule of about 25 hours per week, this means you should be planning independent study of at least 25 hours per week. This includes reading course material prior to lectures – you should not expect to be given all the module material in the lectures and tutorials. The table below details the modules, credit value and coordinator.

Course Code	Module Title	ECTS	Semester	Module Coordinator
CEU44E01	Management for Engineers	5	S1	Prof. John Gallagher (j.gallagher@tcd.ie)
MEU44BM1	Cell & Molecular Biology	5	S1	Prof. Sarah Doyle (hayesj2@tcd.ie)
MEU44BM4	Experimental and Research Methods in Biomedical Engineering	5	S1	Prof. David Hoey (dahoey@tcd.ie)
MEU44BM5	Biomechanics	5	S1	Prof. David Hoey (dahoey@tcd.ie)
MEU44BM6	Biomaterials	5	S1	Prof. Michael Monaghan (monaghmi@tcd.ie)
MEU44E02	Project	15	S2	Prof. Bruce Murphy (murphb17@tcd.ie)
MEU44E04	Trinity Internship Project	30	S2	Prof. Mark Ahearne (ahearnm@tcd.ie)
EEU44C05	Digital Signal Processing	5	S1	Prof. N Harte
MEU44B17	Multibody Dynamics	5	S1	Prof. Ciaran Simms (csimms@tcd.ie)
MEU44B01	Mechanics of Solids	5	S2	Prof. Mark Ahearne (ahearnm@tcd.ie)
MEU44B02	Forensic Materials Engineering	5	S2	Prof. David Taylor (dtaylor@tcd.ie)
MEU44B05	Manufacturing Technology II	5	S2	Prof. Daniel Trimble (DTRIMBLE@tcd.ie)
MEU44B06	Manufacturing Systems and Project Management	5	S2	Dr. Shuo Yin and Dr. Garret O'Donnell (yins@tcd.ie and odonnege@tcd.ie)
MEU44B09	Control Engineering I	5	S2	Prof. Henry Rice (hrice@tcd.ie)

MEU44B12	Introduction to Autonomous Mobile Robotics	5	S2	Prof. Conor McGinn (c.mcgin@tcd.ie)
MEU44B15	Fundamentals of Medical Device design	5	S1	Bruce Murphy Bruce.murphy@tcd.ie
EEU44C08	Digital Image and Video Processing	5	S2	Prof. François Pitié (pitief@tcd.ie)

Module descriptors are available on the School of Engineering website.

The School reserves the right to amend the list of available modules and, in particular to withdraw and add modules. Timetabling may restrict the availability of modules to individual students.

9.2 Laboratories

If applicable each student is required to submit her/his report neatly presented and by the date specified to avoid penalty. Guidelines as to the required length and format of each report will be specified by the lecturer concerned.

Please note that you must attend the particular laboratory sessions to which you have been assigned. Students cannot swap sessions because of the complexity of the timetable, the large numbers in the year and the limited accommodation available.

A no show at a lab results in a zero mark even if a report is submitted. No report submitted means a zero mark even if the lab was attended. Labs cannot be taken in the summer/autumn periods if missed during the year.

Laboratory Timetables: Laboratory timetables will be forwarded to students via blackboard/email.

9.3 Coursework requirements

9.3.1 Microsoft Word - Guidelines for Accessible Documents

All students should use TCD guidelines for all assignments <https://www.tcd.ie/CAPSL/>

9.3.2 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 and **ALL** modules within the Discipline of Biomedical 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.

9.3.3 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

DEPUY SYNTHES PRIZE

This prize was founded by Depuy Synthes in 2020 to recognise engineering scholarship and to support outstanding academic achievement among fourth year biomedical engineering students. The prize is awarded to the fourth-year engineering student with the highest marks in biomedical engineering. Value: €500.

MAURICE F. FITZGERALD PRIZE

This prize was instituted in 1961 by a bequest from Anna Maria FitzGerald. It is awarded annually, where sufficient merit is shown, by the nomination of trustees on the result of the examination for the degree of B.A.I. Candidates must have achieved distinction during the engineering course and have made or be making satisfactory arrangements for the advancement of their knowledge of engineering and progress in the profession of engineer. The value of the prize is approximately €2,500 and is currently administered through the Charities Regulatory Authority.

WRIGHT PRIZE

This prize was founded in 1988 by subscription in appreciation of the work of William Wright, Professor of Engineering and Head of the School of Engineering 1957-85. The prize is awarded annually, provided sufficient merit is shown, to the student in the area designated who obtains the highest aggregate of marks at the examination for the degree of B.A.I.

The designated areas reflect the six Engineering streams currently offered and may be varied at the discretion of the School of Engineering Curriculum Committee. Value, €1,500.

10.2 Scholarships

RANALOW SCHOLARSHIP

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

We operate a 'safe working environment' policy and we take all practical precautions to ensure that hazards or accidents do not occur. We maintain safety whilst giving you the student very open access to facilities. Thus safety is also your personal responsibility and it is your duty to work in a safe manner. By adopting safe practices you ensure both your own safety and the safety of others.

Please read the following Safety Documents for working practices in the Departments of Mechanical, Manufacturing, and Biomedical Engineering:

https://www.tcd.ie/mecheng/assets/pdf/Safety_Statement.pdf

and in the Department of Electronic and Electrical Engineering:

<http://www.mee.tcd.ie/safety/SS2012.pdf>

If you are working in Trinity Centre for Biomedical Engineering Laboratories in Trinity Biomedical Sciences Institute, please contact Mr Simon Carroll, Senior Technical Officer at scarrol6@tcd.ie to complete necessary Health and Safety paperwork prior to completing any laboratory work.

Please ensure you comply with the instructions given in these important documents. Failure to behave in a safe manner may result in you being refused the use of departmental facilities.

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](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

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 Helproom is located in the New Seminar Room in House 20 in the School of Mathematics in the Hamilton Building.

Web: <https://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 expert Careers Consultants throughout your time at Trinity. The support offered includes 'next step' career guidance appointments, CV and LinkedIn profile clinics and practice interviews. The Trinity Careers Service and the School of Engineering also hold an annual Careers Fair in October which gives students the opportunity to find out about career prospects in over fifty companies. Web: <https://www.tcd.ie/Careers/>

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 <https://www.tcd.ie/Sport/student-sport/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. With regard to online teaching, attendance is mandatory at live lectures, tutorial and labs. Pre-recorded lectures should be viewed at the allocated slot on the timetable. 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 Freshmen 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/Trinity joint honors.

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.

22 Students who are unable to attend lectures (or other forms of teaching) due to 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.

Non-satisfactory attendance

24 All students must fulfil the course requirements of the school or department, as appropriate, with regard to attendance. Where specific requirements are not stated, students may be deemed non-satisfactory if they miss more than a third of their course of study in any term. Calendar 2020-21 33

25 At the end of the teaching term, students who have not satisfied the school or department requirements, as set out in §§19 and 24 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 semester two assessment/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 www.tcd.ie/academic_registry/studentcases.

14.2 Absence from examinations

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

51 Students who may be prevented from sitting an examination or examinations (or any part thereof) due to illness should seek, through their tutor, permission from the Senior Lecturer in advance of the assessment session to defer the examination(s) to the reassessment session. Students who have commenced the assessment session, and are prevented from completing the session due to illness should seek, through their tutor, permission to defer the outstanding examination(s)/assessment(s) to the reassessment session. In cases where the assessment session has commenced, requests to defer the outstanding examination(s) on medical grounds, should be submitted by the tutor to the relevant school/departmental/course office. If non-medical grounds are stated, such deferral requests should be made to the Senior Lecturer, as normal.

52 Where such permission is sought, it must be appropriately evidenced:

(a) For illness: medical certificates must state that the student is unfit to sit examinations/complete assessments and specify the date(s) of the illness and the date(s) on which the student is not fit to sit examinations/complete assessments. Medical certificates must be submitted to the student's tutor within three days of the beginning of the period of absence from the assessment/examination.

(b) For other grave cause: appropriate evidence must be submitted to the student's tutor within three days of the beginning of the period of absence from the assessment/examination.

53 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.

54 Where an examination/assessment has been completed, retrospective withdrawal will not be granted by the Senior Lecturer nor will medical certificates be accepted in explanation for poor performance.

55 If protracted illness prevents a student from taking the prescribed assessment components, so that they cannot rise into the next class, they may withdraw from College for a period of convalescence, provided that appropriate medical certificates are submitted to the Senior Lecturer. If the student returns to College in the succeeding academic year they must normally register for the year in full in order to fulfil the requirements of their class. See §26 on fitness to study and §28 fitness to practise, if relevant.

56 Where the effects of a disability prevent a student from taking the prescribed assessment components, so that they cannot rise into the next class, the Senior Lecturer may permit the student to withdraw from College for a period of time provided that appropriate evidence has been submitted to the Disability Service. If they return to College in the succeeding academic year they must normally register for the year in full in order to fulfil the requirements of their class.

57 The nature of non-standard examination accommodations, and their appropriateness for individual students, will be approved by the Senior Lecturer in line with the Council-approved policy on reasonable accommodations. Any reports provided by the College's Disability Service, Health Service or Student Counselling Service will be strictly confidential.

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.

Guidelines on Grades for Essays and Examination Answers

Mark	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 sound.
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 detail

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 in
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 relevant to the
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.

Guidelines on Marking Projects/Dissertation Assessment

Mark Range	Criteria
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.
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 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 every conceivable error and fault. Showing virtually no understanding or appreciation of the problem and of the literature pertaining to it. Chaotic presentation of results, and in some cases incompletely presented and virtually non-existent or inappropriate or plainly wrong analysis. Discussion and interpretation seriously confused or wholly erroneous revealing basic misapprehensions.

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).

16. Cyberbullying

Cyberbullying refers to bullying which is carried out using the internet, mobile phone or other technological devices and platforms. In general, cyberbullying is psychological rather than physical but is often part of a wider pattern of 'traditional' bullying (Reference- Union of students in Ireland cyberbullying-policy: <https://usi.ie/policy/usi-cyberbullying-policy/>)

Due to COVID-19 and as we move to greater online interaction and remote activities, students should be aware that all forms of bullying are a college offence and we strongly discourage any such activity. All such incidents will be dealt with as per college guidelines and regulations. We ask students to familiarise themselves with the college [Dignity and Respect policy](#) which supports a respectful work and study environment free from bullying and harassment.