Mechanical & Manufacturing Engineering

Engineering with Management

B.Sc. (Ing)

Senior Freshman Handbook

2015–2016
Department of Mechanical & Manufacturing Engineering
Faculty of Engineering, Mathematics & Science
Trinity College Dublin

Senior Freshman Handbook
2015/2016

Honours degree programme in
Engineering with Management
B.Sc. (Ing.)
Introduction

Welcome

On behalf of all the staff and students of the Department of Mechanical & Manufacturing Engineering I would like to welcome you back to Trinity College Dublin.

As a department we have a well-deserved reputation for good teaching and research, but above all we take particular pride in being student friendly and in maintaining a good working atmosphere. So if you should experience any difficulties whether personal or academic, particularly in your first few weeks at TCD, do not hesitate to contact Prof. Kevin Kelly, or myself, or indeed any other member of the academic staff.

Professor Darina Murray

September 2015.
A Few Wise Words

The beginning of your second year is a good time to think back on last year and reflect on what went right and what went wrong. Did you really do enough individual study? Did you ask for help early on or did you wait, hoping your last minute studying would make it all clear to you? How was your attendance? The adjustment period is over and the work and study habits you apply in second year will likely be the ones you apply in 3rd and 4th year as well. A few pieces of advice are worth repeating:

1. We want you to do more than simply reproduce what you are told in lecture. You need to get a good command of the material. In engineering-related disciplines, the best way to do this (and the best way to know that you have really learned something) is to apply your new knowledge to solving new problems – not just repeating the examples done in class, but to do similar (and more difficult) problems you’ll find in textbooks or elsewhere. As a professional engineer, you will have to apply your knowledge and skills to problems you have never seen before; now is a good to start!

2. Expect the material to be covered fast. Lecture time is at a premium, so it must be used efficiently. You cannot be taught everything in lectures and tutorials. It is your responsibility to learn the course material not just the lecture material. Most of this learning will take place outside of the classroom, and you must be willing to put in the study time necessary to ensure that this learning takes place. If you do fall behind in a course – that is, if you can’t continue to understand the lectures as they are given, then you really need to make an effort to catch up right away. Don’t be tempted to think that you can somehow catch up at the end of the year – it’s almost impossible.

3. A lecturer’s job is primarily to provide you with a framework, with some of the particulars, to guide you in doing your learning of the concepts and methods that comprise the material of the course. It is not to ‘program’ you with isolated facts and problem types or to monitor your progress. Your job is to fill out that framework with a thorough understanding of the material. Evaluations are based on your understanding of the material, not your ability to recite the lecturer’s notes and examples.

4. You are expected to read any recommended textbooks for comprehension. They will provide a broader and more detailed account of the material of the course. Don’t read the textbook like a novel. Skimming to get the ‘overall picture’ is tempting but not very helpful. Attention to detail is the key and this means that reading is often slow-going. Frequently you’ll need to use a pencil and paper to work through the examples for yourself. Patience, repetition, and attention to detail are the best ways to genuinely master the material.

5. As for when to read the textbooks, it’s a good idea to read the appropriate section ahead of the lecture. This way, although you may not fully understand it, you’ll be prepared for lecture, and you will have a good idea what areas to ask questions about. If you haven’t looked at the book beforehand, pick up what you can in the
lecture (absorb the general idea and/or take thorough notes) and count on sorting it out later while studying the textbook and transcribing your notes.

6. Practicals and tutorials are far more important than the marks you might get for them, because they give you a chance to develop your understanding of the subject. They are also a good ‘reality check’ for you to see just how much you really understand. Tutorials, in particular, are a great opportunity to ask for clarification of a lecture or topic. This is what they are for and what the tutorial leader expects - use them to your advantage!

7. In examinations, the examiners set out to probe your mastery of the material in the course. Primarily, they will be looking for your command of the material, as noted above. You'll probably have to solve problems you have never seen before or ones that are presented in a different manner. Hence, preparing for examinations by memorizing types of questions simply won't work – you must demonstrate your understanding of the material.

8. Engineering is about co-operation, but also individual effort. The everyday fruits of engineering, such as a jet aircraft or suspensions bridge or a microchip have been designed a built by teams of hundreds, even thousands of engineers working together. These engineers exchange ideas and ultimately co-ordinate their efforts to achieve the overall project goal. However, each component of even the largest project is the result of one individual’s engineering skill and imagination.

9. During your time in college, you will be asked to work both individually and in groups. In the first case you should collaborate but ultimately produce your own work. For example, for a computing exercise, discuss the task with your classmates, swap ideas on how to solve the problem, but at the end of the day, design and implement your own solution and write your own report. In those situations when you are asked to work in a group and submit a single project, divide the project into tasks to be carried out by the individuals. Meet and share the results in order to assemble and present the final report.

(Adapted from “Teaching at University Level” by Steven Zucker in Notices of the AMS, August 1996.)
Faculty Structure

The degree in Engineering and Management is run by the Department of Mechanical & Manufacturing Engineering. The department is part of the School of Engineering which forms part of the Faculty of Engineering & Systems Sciences. A significant contribution is made by the Management Science and Information Systems Studies programme of the Department of Statistics. The structure of the faculty is shown below:
Senior Freshman Year

The second year is designed to develop the fundamental engineering and management tools that you were exposed to last year. Most of the engineering and science courses are taken together with the general engineering students. A new website is nearing completion. This will have all the course information, timetables, and this handbook.

Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>2MEMS2</td>
<td>Finance</td>
<td>5</td>
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<tr>
<td>2MEMS3</td>
<td>Design I</td>
<td>5</td>
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<tr>
<td>2MEMS4</td>
<td>Materials</td>
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<td>Manufacturing Technology &amp; Systems</td>
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<td>2MEMS10</td>
<td>Manufacturing Engineering Design</td>
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<tr>
<td>2E1</td>
<td>Engineering Mathematics III</td>
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<td>2E2</td>
<td>Engineering Mathematics IV</td>
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<tr>
<td>2E4</td>
<td>Solids and Structures</td>
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<tr>
<td>2E5</td>
<td>Thermo-Fluids</td>
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<tr>
<td>2E6</td>
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<td>5</td>
</tr>
<tr>
<td>2E11</td>
<td>Numerical Analysis</td>
<td>5</td>
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KEY DATES

Semester 1  (Michaelmas Term)

12 weeks    Monday, 28 September to Friday 18 December 2015.

Semester 2  (Hilary Term)

12 weeks    Monday, 18 January to Friday 8 April 2016.

Revision/Examinations/Results (Trinity Term)

Annual Examinations commence Monday, 02 May 2016 and finish at the latest on Friday 27 May 2016.

Lecture/tutorial/laboratory timetables

Lecturers assume that you carry out a significant amount of personal study and expect you to be able to understand aspects of the subject not explicitly covered in lectures, tutorials, and laboratories.

The timetable for lectures, tutorials, and laboratories is attached at the end of this handbook. The assignment of students to the numbered laboratory groups will take place after registration. Every effort has been made to create a schedule that leaves significant blocks of time available to you to facilitate library and study time. There is an average of 30 scheduled hours per week. The expectation is that you will spend at least an additional 15 hours/week carrying out personal study (e.g. reading, problem sets, projects, lab reports).
Helpful Hints

Location of Rooms and Labs
The Engineering School is accommodated in a number of buildings located in various parts of the college campus – see the map in Appendix F. Most first year lectures are in the Arts Building, the Hamilton Building, the Physics Department and the Chemistry Department. Drawing exercises take place in the Drawing Office on the top floor of the Engineering School in the Museum Building. Computer Science practicals take place in the East End MAC Laboratory while the MEMS courses are taught in the Parsons Building and the Arts Block. A map of College is shown at the back of the handbook.

Libraries
There are many libraries in the College. The main library for the School of Engineering is located in the Hamilton Building at the East end of College. This library houses all the lending and reference materials that will be recommended to the students. The library is open 9.30 a.m. – 10.00 p.m. Monday to Friday and 9.30 a.m. – 1.00 p.m. Saturday throughout the academic year.

The Engineering Librarian is Susan Doyle. Should you have any difficulty finding books, or need assistance of any sort, do remember that the library staffs are there to help you and will be very happy to do so.

E-mail and Internet Access
Remember that increasingly, messages for individual students and general messages for the class are sent via e-mail. It is essential that you get into the habit of checking your e-mail regularly. Internet access is provided from computers in the public access computer rooms. Information Systems Services (ISS) issues a handbook to all students describing the use of the public access computer rooms. The Department of Mechanical & Manufacturing Engineering and the Department of Statistics also have computer rooms available for use by EMS students. Internet access from these computers is subject to individual department policy.
Need help?
If you have problems, and most of you will, the best person to go to is your tutor. They are there to help you in all matters relating to your life in College. These include all personal problems and/or requests for special treatment (e.g. seeking permission to take a year off, obtaining details of your examination marks, appealing a result, changing courses). You are strongly encouraged to meet with your tutor in the first week and get to know them. Don’t worry about inconveniencing them. Being a tutor is not compulsory so those that are tutors have chosen to be and expect you to visit them. When problems arise, they can be your strongest advocate.

Personal matters
Tutors are not counselors but can lend a sympathetic ear to you if you are having personal difficulties at home or in college. More importantly, they can put you in contact with people who can be of direct help in counseling, health, and financial issues (e.g. the Student Counseling Service, the Student Health Service, the Student’s Union, and the Senior Tutor’s office). The sooner you approach your tutor with your difficulty, the more s/he can do for you.

In some matters you can deal directly with the department staff. These are described below:

Academic matters
Academic matters (i.e. understanding course content, organising revision sessions) should be addressed to the lecturer or teaching assistant concerned. Don’t let yourself get into greater and greater difficulty because you don’t understand some of the lecture content. Most lecturers assume that, if there are no questions in or out of lectures, everything is clear to the students. It is surprising how effective a 15 minute meeting with a lecturer or teaching assistant can be. Be aware that these people are generally only willing to help students who attend lectures regularly (unless the student is absent for some genuine reason).

Programme matters
Examples of these issues are books not being available in the library, a lecturer not speaking clearly, projects with similar due dates. These should be taken to the class representative (you will have to elect one) who should then bring them to the attention of the Head of Department or Course Director (Prof. David Taylor & Prof. Kelly). If in doubt, speak to your tutor first.

Administrative matters
If you need to replace a lost timetable or request a transcript, you should approach Judith Lee or Nicole Byrne. They have many other responsibilities so try and avoid asking them too many trivial questions and try not to ask them at or near the end of the day.
Other sources of help:

**Student Counselling**

- Location: 3rd. Floor, 7-9 south Leinster Street, College
- Telephone: (896) 1407
- Website: [www.tcd.ie/Student_Counselling/](http://www.tcd.ie/Student_Counselling/)

**Learning Support**

- Location: 3rd. Floor, 7-9 south Leinster Street, College
- Telephone: (896) 1407
- Website: [www.tcd.ie/Student_Counselling/service_lshome.php](http://www.tcd.ie/Student_Counselling/service_lshome.php)

**Student Health Service**

- Location: House 47 (adjacent to the rugby pitch)
- Telephone: (896) 1556/1591
- Website: [www.tcd.ie/College_Health/healthservice/](http://www.tcd.ie/College_Health/healthservice/)

**Student Union**

- Location: House 6
- Website: [www.tcdsu.tcdlife.ie](http://www.tcdsu.tcdlife.ie)
- Welfare Officer: Denise Keogh (welfare@tcdsu.org), 646 8437

**Chaplains**

- Location: House 27 & Arch 7 (Goldsmith Hall)
- Telephone: Paddy Gleeson (Roman Catholic) (896) 1260, Alan McCormack (Church of Ireland) (896) 1402
Contact persons if you feel you are being sexually harassed or the victim of bullying:

Ms. Anne-Marie Diffley (896) 2320  Ms. Sheila Maher (896) 1573
Professor Jane Grimson (896) 1780  Ms. Ann Mulligan (896) 1239
Mr. Pat Holahan (896) 1091  Dr. Myra O'Regan (896) 1834
Dr. Tim Jackson (896) 1501  Ms. Geraldine Ryan (896) 1658
Mr. Mark Flynn (896) 1340  Ms. Ruth Torode (896) 1025

Any student, member of staff or other person with whom you feel able to discuss your problems.

REMEMBER:

1. IF YOU HAVE A PROBLEM OF ANY SORT, PLEASE TALK TO SOMEONE STRAIGHT AWAY.

2. ASK FOR HELP SOONER RATHER THAN LATER
Module Information

For all Engineering modules, detailed information is available on the School of Engineering website at https://www.tcd.ie/Engineering/undergraduate/baiyear2/.

<table>
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<tr>
<th>Module Title</th>
<th>2E1 Engineering Mathematics III</th>
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<tr>
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<tr>
<td>Lecturer(s):</td>
<td>Associate Prof. Sergey Frolov (<a href="mailto:frolovs@maths.tcd.ie">frolovs@maths.tcd.ie</a>)</td>
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<td>Lecturer(s):</td>
<td>Associate Prof. Sergey Frolov (<a href="mailto:frolovs@maths.tcd.ie">frolovs@maths.tcd.ie</a>)</td>
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<th>2E4 Solids and Structures</th>
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<tr>
<td>Lecturer(s):</td>
<td>Associate Prof. Alan O'Connor (<a href="mailto:alan.oconnor@tcd.ie">alan.oconnor@tcd.ie</a>)</td>
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<th>2E5 Thermo-Fluids</th>
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<tr>
<td>Lecturer(s):</td>
<td>Assistant Prof. Tony Robinson (<a href="mailto:arobins@tcd.ie">arobins@tcd.ie</a>) Assistant Prof. Seamus O'Shaugnessy (<a href="mailto:oshaughse@tcd.ie">oshaughse@tcd.ie</a>)</td>
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<tr>
<td>Lecturer(s):</td>
<td>Prof. Brian Foley (<a href="mailto:brian.foley@tcd.ie">brian.foley@tcd.ie</a>)</td>
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<tr>
<td>Module Title</td>
<td>2E11 Numerical Analysis</td>
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<tr>
<td>Lecturer(s):</td>
<td>Associate Prof. Ciaran Simms (<a href="mailto:csimms@tcd.ie">csimms@tcd.ie</a>)</td>
</tr>
<tr>
<td></td>
<td>Assistant Prof. Tim Persoons (<a href="mailto:persoont@tcd.ie">persoont@tcd.ie</a>)</td>
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<tr>
<th>Module Title</th>
<th>2MEMS2 Finance</th>
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<tr>
<td>Lecturer(s):</td>
<td>Mr. Conor O'Kelly (<a href="mailto:conorok@gmail.com">conorok@gmail.com</a>)</td>
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<tr>
<td>Lecturer(s):</td>
<td>Dr. David Hoey (<a href="mailto:dahoey@tcd.ie">dahoey@tcd.ie</a>)</td>
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<tr>
<th>Module Title</th>
<th>2MEMS4 Materials</th>
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<tr>
<td>Lecturer(s):</td>
<td>Associate Prof. Kevin O'Kelly (<a href="mailto:okellyk@tcd.ie">okellyk@tcd.ie</a>)</td>
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</tbody>
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Module Title: 3B7 (2MEMS7) Manufacturing Technology & Systems
Code: ME3B7 (2MEMS7)
Level: Junior Sophister
Credits: 5
Lecturer(s): Prof. John Monaghan (jmonghan@tcd.ie)
Mr. Robin Mooney (mooneyrp@tcd.ie)


Module Title: 2MEMS10 Manufacturing Engineering Design
Code: ME2M10
Level: Senior Freshman
Credits: 10
Lecturer(s): Prof. Kevin Kelly (kevin.kelly@tcd.ie)
Dr. Daniel Trimble (dtrimble@tcd.ie)

Regulations and Assessment

**College Regulations**

College regulations are set out in the University Calendar, which may be consulted in any College Library, the Enquiries Office, any academic or administrative office or online – [www.tcd.ie/calendar/](http://www.tcd.ie/calendar/). You are expected to be aware of the various regulations - ignorance of the regulations is not a valid reason for failure to comply.

**Collaboration, Plagiarism and Individual Work**

Engineering is about co-operation, but also individual effort. The everyday fruits of engineering, such as jet aircraft, suspension bridges, microprocessors or software systems, have been designed and built by teams of hundreds, even thousands, of engineers working together. These engineers exchange ideas and ultimately coordinate their efforts to achieve the overall project goal. However, each component of even the largest project is the result of one individual’s engineering skill and imagination. If you want to become a successful engineer, you must develop your own ability to analyse problems. This means that, while it is useful to work as a team initially, you must ultimately produce your own work. For example, for a computing exercise, discuss the task with your classmates, swap ideas on how to solve the problem, but at the end of the day, implement your own solution. The examinations will test your ability rather than just your knowledge and the only way to develop your ability for engineering analysis is to complete the laboratory and tutorial exercises yourself.

**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](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.

**Attendance, non-satisfactory attendance, course work**

For professional reasons lecture and tutorial attendance in all years is compulsory in the School of Engineering. For more on this, See Part II, Academic Progress Section (25) of the College Calendar http://www.tcd.ie/calendar/1415-2/part-2-undergraduate-courses-and-other-general-information/general-regulations-and-information/academic-progress/

All students must fulfil the course requirements of the school or department, as appropriate, with regard to attendance and course work. 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. **Therefore, a minimum 75% attendance rate at lectures, Laboratories and Tutorials is required.**

At the end of the teaching term, students who have not satisfied the school or department requirements 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: http://www.tcd.ie/undergraduate-studies/academic-progress/attendance-course-work.php

**Assessment**

The overall result for the year is the weighted average of the individual module results. The weighting is based on the credits associated with each module.
Students are obliged to be present and make a serious attempt at all their examinations. You are advised to read the examination regulations on the School Website. Particular attention should be given to the College Regulations concerning medical certificates in the case of missed examinations. Further information is available in Part II, Academic Progress Section (35) of the College Calendar.

Examination timetables are published on your personal TCD portal page some weeks before the examinations take place. It is your responsibility to note these carefully – you will be informed that timetables have been published but you must check them continuously, as examination details may change.

Course Regulations

Assignment deadlines

Many E&M courses include an element of continuous assessment. Different departments have their own rules on continuous assessment and homework. You should make sure you are familiar with these rules and that you understand them. The Department of Mechanical and Manufacturing Engineering rules are summarised below:

1. The lecturer must notify the students of:
   - the deadline
   - where and how the assignment is to be handed in
   - the penalties for late submission
   - the procedure for granting permission for late submissions.

    Otherwise the default rules, as set out below, will apply.

2. The deadline for all continuous assessment work will be 5pm on the day specified.

3. The work must be handed in to the Department Secretary who will stamp it with the date and time and record the submission in a log. The submission must be clearly labelled and must show the student’s name, the assignment title, the course number, and the lecturer’s name.

4. Penalties for late submission are as follows: material submitted late will be marked down 20% of the mark that would otherwise have been awarded for each day (or part thereof) that it is late. Work submitted after 5pm of the fifth day after the deadline will receive a mark of zero.

5. Extensions are normally granted if you can present a good reason for not being able to submit on time. If you need an extension, you should speak to your tutor, not your lecturer. Lecturers will normally grant an extension following a letter from a tutor. Keep in mind that valid reasons are those that could not have been foreseen.
6. Sometimes, where there is a general problem, a Lecturer may award an extension to the entire class. This will be posted (and optionally e-mailed to all students). Penalties will apply as stated above from the revised deadline.

Students are obliged to be present and make a serious attempt at all their examinations. You are advised to read the Examination Regulations (included in this Section 5 of this booklet). Particular attention should be given to the College Regulations concerning medical certificates.

Examination timetables are placed on the notice board some weeks before the examinations take place. It is your responsibility to note these carefully.

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

EXAMINATION RULES
FRESHMAN AND JUNIOR SOPHISTER


The full set of overall grades is set out below;

<table>
<thead>
<tr>
<th>Description</th>
<th>Grade</th>
<th>Criterion</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Class Honors</td>
<td>I</td>
<td>mark greater than or equal to 70%</td>
</tr>
<tr>
<td>Second Class Honors,</td>
<td>II.1</td>
<td>mark greater than or equal to 60% and less than 70%</td>
</tr>
<tr>
<td>First Division</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second Class Honors,</td>
<td>II.2</td>
<td>mark greater than or equal to 50% and less than 60%</td>
</tr>
<tr>
<td>Second Division</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Third Class Honors</td>
<td>III</td>
<td>mark greater than or equal to 40% and less than 50%</td>
</tr>
<tr>
<td>Fail</td>
<td>F</td>
<td>the candidate has failed to satisfy the criteria listed above</td>
</tr>
<tr>
<td>Exclude</td>
<td>EX</td>
<td>the candidate has not made a serious attempt at the examinations or the candidate has not passed the year within eighteen months from that date on which they first became eligible or the candidate has at least one unexplained absence</td>
</tr>
<tr>
<td>Deferred</td>
<td>D</td>
<td>the candidate was absent with permission due to medical or other grounds and the result is incomplete</td>
</tr>
<tr>
<td>ERASMUS Awaiting Result</td>
<td>ER</td>
<td>Applies to Erasmus / International Exchange students</td>
</tr>
<tr>
<td>Result</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Result Withheld</td>
<td>RW</td>
<td>it may be necessary for academic or administrative reasons to withhold a result (e.g. unpaid fees or fines)</td>
</tr>
</tbody>
</table>
Withdrawn WD the candidate has withdrawn from the course
Repeat year R the candidates is given permission to repeat the year IN FULL (applies at SUPPLEMENTAL examinations ONLY)
Pass P the candidate may rise to the next year of the degree programme (applies at SUPPLEMENTAL examinations ONLY)

After the Court of Examiners’ meeting, ANNUAL and SUPPLEMENTAL examination results are published anonymously in student number order.

**Individual module results**

All individual module results are published anonymously by student number on the College notice boards, on the local School of Engineering website - [http://www.tcd.ie/Engineering/Results/](http://www.tcd.ie/Engineering/Results/) (students will need their College username and password) and on the College’s Examinations Office website - [http://www.tcd.ie/Examinations/Results/](http://www.tcd.ie/Examinations/Results/)

Where a mark is not reported for a module the following codes apply where appropriate:

- **f** = mark is less than 25%;
- **a** = absent with permission/explained absence – may take a SUPPLEMENTAL examination;
- **A** = absent without permission or explanation – **automatic exclusion**;
- **mc** = medical certificate supplied to and accepted by the Senior Lecturer;
- **cr** = credit for subject e.g. candidate is exempt on the basis of their performance in the Foundation Scholarship examination;
- **gw** = grade withheld (e.g. unpaid fees or fines).
- **p** = credit for subject passed on previous occasion.

**Repeating the year**

Candidates must repeat the year IN FULL which includes all continuous assessment requirements and laboratory experiments.

**Publication of Results**

Examination results are published on the Department Notice board in Parsons Building. The examination results of candidates are published on the notice board in order of the candidates’ student numbers. Candidates’ names are not listed. Anyone
seeking a candidates' result must have their student number. Tutors can also be contacted regarding your examination results.

Re-checking/Re-marking of Examination Scripts

Extract from Part II, Academic Progress Section (52) of the College Calendar:

(i) All students have a right to discuss their examination and assessment performance with the appropriate members of staff as arranged for by the director of teaching and learning (undergraduate) or the head of department as appropriate. This right is basic to the educational process.

(ii) Students are entitled to view their scripts when discussing their examinations and assessment performance.

(iii) Students' examination performance cannot be discussed with them until after the publication of the examination results.

(iv) To obtain access to the breakdown of results, a student or his/her tutor should make a request to the director of teaching and learning (undergraduate), course co-ordinator or appropriate member of staff.

(v) Examination scripts are retained by schools and departments for thirteen months from the date of the meeting of the court of examiners which moderates the marks in question and may not be available for consultation after this time period.

“52 Re-check/re-mark of examination scripts

(i) Having received information about their results and having discussed these and their performance with the director of teaching and learning (undergraduate) or the head of department and/or the appropriate staff, students may ask that their results be reconsidered if they have reason to believe:

(a) that the grade is incorrect because of an error in calculation of results;

(b) that the examination paper specific to the student’s course contained questions on subjects which were not part of the course prescribed for the examination; or

(c) that bias was shown by an examiner in marking the script.

(ii) In the case of (a) above, the request should be made through the student’s tutor to the director of teaching and learning (undergraduate) or course co-ordinator as appropriate.
(iii) In the case of (b) and/or (c) above, the request should be made through the student’s tutor to the Senior Lecturer. In submitting such a case for reconsideration of results, students should state under which of (b) and/or (c) the request is being made. (Details of the procedures relating to the re-check/re-mark of examination scripts are available on the College website at https://www.tcd.ie/academicregistry/exams/results/recheck/)

(iv) Once an examination result has been published it cannot be amended without the permission of the Senior Lecturer.

(v) Requests for re-check or re-mark should be made as soon as possible after discussion of results and performance and no later than twelve months from the date of the meeting of the court of examiners which moderated the marks in question.

(vi) Any student who makes a request for re-check or re-mark that could have implications for their degree result is advised not to proceed with degree conferral until the outcome of the request has been confirmed”.

Appeals

Extract from Part II, Academic Progress Section (53) of the College Calendar:

"53 A student may appeal a decision of the court of examiners relating to academic progress to a Court of First Appeal. (Details of procedures relating to Courts of First Appeal are available on the College website at https://www.tcd.ie/undergraduate-studies/academic_progress/appeals.php and from relevant course offices) Appeals should be made in writing by a student’s tutor or, if the tutor is unwilling or unable to act, by the Senior Tutor or his/her nominee who shall be another tutor. Students may request a representative of the Students’ Union to represent them as an alternative to their tutor or the Senior Tutor. Tutors or Students’ Union representatives who are filing an appeal must use the procedural form, must indicate the precise grounds upon which the appeal is being made (see Academic Appeals Committee §54 below for applicable grounds) and what the appeal is attempting to achieve on the student’s behalf, e.g. permission to repeat the year, special examination etc. The attention of those bringing an appeal is directed to the assistance offered by the school or course administrators and the undergraduate studies staff in Trinity Teaching and Learning in helping them to complete their records, provide copies of medical certificates and other appropriate documents. The Court of First Appeal shall not hear requests for re-checking/re-marking of examinations and assessments which should be processed according to the regulations as set out in §52 above. The recommendations of the Court of First Appeal are forwarded to the Senior Lecturer who may approve or reject or vary any such recommendations. As a consequence recommendations of a Court of First Appeal are not binding and shall not have a formal effect unless and until they have been considered and approved by the Senior Lecturer.

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In particular, pursuant to §37, the Senior Lecturer will approve a recommendation that a student be permitted to sit a special examination, outside of the annual and supplemental sessions, as set out in the Almanack, only in exceptional circumstances. (This power is exercised by the Senior Lecturer by delegation from the University Council, and the principles of delegation set out in Part 3 of the Introduction Chapter of the 2010 Statutes shall apply.) A student may appeal such decisions of the Senior Lecturer, whether approved or rejected or varied, to the Academic Appeals Committee.

GUIDELINES AND REGULATIONS FOR B.A.I. STUDENTS UNDERTAKING INTERNATIONAL STUDIES

This document provides guidelines and regulations for students who spend their Junior Sophister year of the B.A.I. programme at an approved foreign host University. Agreements are currently in place with INSA Lyon (France) and Karlsruhe University (Germany).

Students must obtain permission to spend their JS year at another University from the International Student Coordinator of the Department responsible for the B.A.I. stream in which they intend to specialise. These applications will then be reviewed by the Director of Teaching and Learning (Undergraduate) and the Head of School for final approval. At present, these coordinators are as follows:

- **Department of Civil, Structural and Environmental Engineering**: Dr Sara Pavia
- **Department of Computer Science**: Ms Mary Sharp
- **Department of Electronic and Electrical Engineering**: Dr Anthony Quinn
- **Department of Mechanical and Manufacturing Engineering**: Professor Henry Rice

Students must obtain at least a II.1 in their SF year in order to be given permission to spend their JS year abroad and must have appropriate language competency for their host University.

Each student must undertake courses that have a combined rating of at least 45 ECTS of which at least 40 ECTS must be in approved technically based engineering modules. Each student must get their module choices approved by their International Student Coordinator.

Students should be aware that some host Universities (typically in Germany) do not return marks using a centralised administrative system. In such cases, students need to take responsibility for obtaining their marks for each subject directly from their lecturers on official College letterhead. These must then be returned to their International Student Coordinator as quickly as possible.

Students must complete the year at the host University and have no entitlement to take supplemental exams at TCD. Students should be aware that some host Universities do not have supplemental exams or may not allow students to sit supplementals if their attendance or performance has been poor.

Students are advised to monitor the course information at their host University very frequently.

Assessment of modules taken in the overseas university will be weighted in the calculation of the final degree results as if the modules had been taken in this university.

**MARKING SCHEMES**

Firstly, the grades obtained are converted into TCD equivalents as follows:
### INSA (Lyon)

<table>
<thead>
<tr>
<th>ECTS mark returned</th>
<th>TCD equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>80%</td>
</tr>
<tr>
<td>B</td>
<td>65%</td>
</tr>
<tr>
<td>C</td>
<td>60%</td>
</tr>
<tr>
<td>D</td>
<td>55%</td>
</tr>
<tr>
<td>E</td>
<td>45%</td>
</tr>
<tr>
<td>Fx</td>
<td>30%</td>
</tr>
<tr>
<td>F</td>
<td>20%</td>
</tr>
</tbody>
</table>

**Karlsruhe University**

The marks obtained from Karlsruhe are based on the German system which grades subjects from 1.0 (very good) to 5.0 (NOT adequate). Grades are converted into TCD equivalents using the following formula:

\[
\text{TCDMark} = \frac{(5 - \text{KarlsruheMark})}{4} \times 100
\]

**Pass Criteria**

In order to pass the JS year, students must:

- acquire 45 credits for modules at the host University, of which 40 credits must be in approved technical engineering modules;
- each student must submit an interim and a final report on their experience to their International Student Coordinator to acquire an additional 15 credits giving a total of 60 credits for the year.
5 Health & Safety

Safety in the Department

Dear Student,

The Department of Mechanical & Manufacturing Engineering operates 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 the departmental facilities. Thus safety is also your personal responsibility and it is your duty to work in a safe manner when within the department. By adopting safe practices you ensure both your own safety and the safety of others.

Please read the Safety Document on the Departmental website: http://www.mme.tcd.ie/ and comply with the instructions given within. Failure to behave in a safe manner may result in your being refused the use of departmental facilities.

Mr. Gerry Byrne

Departmental Safety Officer
6 College Map
7 Student Disability Services

If you have a disability or a specific learning disability (such as dyslexia) you may want to register with Student Disability Services.

Do you know what supports are available to you in College if you have a disability or a specific learning disability? Further information on our services can be found at www.tcd.ie/disability

Declan Reilly and Alison Doyle are the Disability Officer for the Engineering Faculty.

You can make an appointment with a member of the Disability Service by:

- **phoning** 01 8963111
- **emailing:** disablilty@tcd.ie
- **texting:** 086 3442322

The disability Service holds drop-in sessions during the academic year. Details are given below:

**Office Hours**

- **Monday – Thursday:** 9:15 – 5:15
- Drop in – or appointments may be made during these times
- **Friday:** By appointment only
8 New Student Information System (SITS)

STUDENT INFORMATION SYSTEM (SITS) – ACCESS VIA my.tcd.ie

All communications from College will be sent to you via your online portal which will give you access to an ‘in tray’ of your messages. You will also be able to view your timetables online, both for your teaching and for your examinations. All fee invoices/payments, student levies and commencement fees will be issued online and all payments will be carried out online. You will be able to view your personal details in the new system – some sections of which you will be able to edit yourself. Up until now, all examination results were published online by the Examinations Office at http://www.tcd.ie/vpcao/examinations.php – from now on, it is planned that your results will also be communicated to you via the online portal. Future plans for the new system include online module registration and ongoing provision of module assessment results.
Student Disability Services

If you have a disability or a specific learning disability (such as dyslexia) you may want to register with Student Disability Services.

Do you know what supports are available to you in College if you have a disability or a specific learning disability? Further information on our services can be found at www.tcd.ie/disability

Declan Reilly and Alison Doyle are the Disability Officers in College. You can make an appointment to see them by phoning 6083111, or emailing them at: disab@tcd.ie.

College Health Service, House No 47
Trinity College, Dublin 2.
Tel. 01 8968555 / 8961556 / 8961591

The Clinical staff in the College Health Service:

Medical Director: Dr. David McGrath
Assistant Medical Director/Psychiatrist: Dr. Niamh Farrelly
Doctors: Dr. Niamh Murphy
Dr. Mary Sheridan
Dr. Aisling Waters
Dr. Colette Horgan
Physiotherapist: Ms. Karita Cullen
Health Promotion Officer: Ms. Martina Mullin
**Student Supports**

**Academic Concerns: Sources of Assistance**
- Other students in the class;
- Course lecturer;
- Engineering class representatives;
- your personal tutor (or any other tutor if you cannot find yours), or the Senior Tutor;
- Head of Department,
- Head of School or Director of Teaching and Learning (Undergraduate), Assistant Prof. Ciaran Simms (csimms@tcd.ie);
- Students’ Union Education Officer (education@tcdu.org)

**Student Learning Development**
Student Learning Development is here to help you develop and master the academic skills to succeed at Trinity. The supports available include:

- Free workshops throughout the year on a variety of topics for students from all departments.
- A Blackboard module featuring a range of resources, including podcasts and interactive workshops that provide academic support to students. Topics include:
  - Time management
  - Presentation skills (incl poster presentations)
  - Procrastination and Concentration
  - Effective study skills
  - Writing skills
  - Exam skills
  - Individual consultations – meet with a learning advisor to discuss your study issues

For more information please visit [http://student-learning.tcd.ie](http://student-learning.tcd.ie)

**Other supports for learning in College include:**
- The Maths Help Room, which provides informal help from Trinity students. It is located in the Maths Seminar Room, 2nd Floor, 18 Westland Row and is open on Monday-Friday, from 1-2pm
- The Programming Support Centre is available to all computer science and engineering students taking programming courses. See [www.scss.tcd.ie/misc/psc](http://www.scss.tcd.ie/misc/psc)
- Peer Learning is available in several of the modern language departments. It involves working with other students to get the most from your course to
improve performance. E-mail us for further information: student.learning@tcd.ie

**S2S Peer Support**

S2S Peer Support is all about one student listening to another student and providing information and assistance. Peer Supporters are available for any student in the College and are there for anything you might want to talk through with them. You don’t need to be in distress or crisis to talk to a Peer Supporter, but they can help with the larger problems as well as the smaller things. Our volunteers are highly trained, confidential and professional, but they’re also fellow students who can offer some genuine empathy and a friendly ear.

If anything is on your mind and you’d like to share it with a good listener then a Peer Supporter would love to help. You can email us directly at student2student@tcd.ie or request a meet-up with a Peer Supporter by calling 01 896 2438 or filling out an online form.

S2S website: http://student2student.tcd.ie

**Contacting Academic Registry**

All enquiries should be directed through one of the 4 channels:

- Log an enquiry via ASK AR on the my.tcd.ie portal
- Via email at academic.registry@tcd.ie
- Via phone at #4500 [students] or #4501 [staff]

From there they will be answered directly or escalated to the correct team.

**Tutors**

The tutors responsible for engineering students are:

<table>
<thead>
<tr>
<th>TUTOR</th>
<th>OFFICE LOCATION</th>
<th>EXTN.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kevin Kelly</td>
<td>Mechanical Engineering, Parsons Building</td>
<td>1465</td>
</tr>
<tr>
<td>Bruce Murphy</td>
<td>Mechanical Engineering, Parsons Building</td>
<td>8503</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
<th>Building</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>David Taylor</td>
<td>Mechanical Engineering, Parsons Building</td>
<td>1703</td>
<td></td>
</tr>
<tr>
<td>Henry Rice</td>
<td>Mechanical Engineering, Parsons Building (Erasmus only)</td>
<td>1996</td>
<td></td>
</tr>
<tr>
<td>Trevor Orr</td>
<td>Civil Engineering, Museum Building</td>
<td>1204</td>
<td></td>
</tr>
<tr>
<td>Bidisha Ghosh</td>
<td>Civil Engineering, Museum Building</td>
<td>3646</td>
<td></td>
</tr>
<tr>
<td>Brian Caulfield</td>
<td>Civil Engineering, Museum Building</td>
<td>2534</td>
<td></td>
</tr>
<tr>
<td>Aonghus McNabola</td>
<td>Civil Engineering, Museum Building</td>
<td>3837</td>
<td></td>
</tr>
<tr>
<td>Laurence Gill</td>
<td>Civil Engineering, Museum Building</td>
<td>1047</td>
<td></td>
</tr>
<tr>
<td>Dermot O’Dwyer</td>
<td>Civil Engineering, Museum Building</td>
<td>2532</td>
<td></td>
</tr>
<tr>
<td>Alan O’Connor</td>
<td>Civil Engineering, Museum Building</td>
<td>1822</td>
<td></td>
</tr>
<tr>
<td>Liwen Xiao</td>
<td>Civil Engineering, Museum Building</td>
<td>3741</td>
<td></td>
</tr>
<tr>
<td>Sarah McCormack</td>
<td>Civil Engineering, Museum Building</td>
<td>3321</td>
<td></td>
</tr>
<tr>
<td>Francesco Pilla</td>
<td>Civil Engineering, Museum Building</td>
<td>1638</td>
<td></td>
</tr>
<tr>
<td>Naomi Harte</td>
<td>Electronic and Electrical Engineering, Printing House</td>
<td>1861</td>
<td></td>
</tr>
<tr>
<td>Edmund Lalor</td>
<td>Electronic and Electrical Engineering, Printing House</td>
<td>1743</td>
<td></td>
</tr>
<tr>
<td><strong>Senior Tutor</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr Claire Laudet</td>
<td>Senior Tutor’s Office, House 27</td>
<td>2004</td>
<td></td>
</tr>
</tbody>
</table>