School of Engineering

Civil, Structural & Environmental Engineering
Course year Handbook
2020-2021
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Note:

Alternative formats of the handbook can be made available on request.

This handbook applies to all students completing MAI Year 5 in Civil, Structural and Environmental Engineering. It provides a guide to what is expected of you on this programme, and the academic and personal support available to you. Please retain for future reference.

All students are encouraged to fully familiarise themselves with college rules and general regulations which can be found here:


The information provided in this handbook is accurate at time preparation. Any necessary revisions will be notified to students by e-mail. Please note that, in the event of any conflict or inconsistency between the General Regulations published in the University Calendar and information contained in course handbooks, the provisions of the General Regulations will prevail.
COVID-19

Important information on COVID-19 restrictions and modes of teaching and learning

In order to offer taught programmes in line with government health and safety advice, teaching and learning in Semester 1 for your programme will follow a blended model that combines online and in-person elements to be attended on campus. This blended model will include offering online lectures for larger class groupings, as well as in-person classes for smaller groups: the differing modes of teaching and learning for particular modules are determined by your home School. Information on the modes of teaching and learning in Semester 2 will be available closer to the time.

Trinity will be as flexible as possible in facilitating late arrivals due to travel restrictions, visa delays, and other challenges arising from the COVID-19 pandemic. If you expect to arrive later than 28th September, please alert your course coordinator as early as possible.

For those students not currently in Ireland, according to current Government health and safety guidelines, please note that these students are expected to allow for a 14-day period of restricted movement after arrival and prior to commencement of their studies, and therefore should factor this into their travel plans.

For those students currently on the island of Ireland, we remind you of the Irish Government’s advice that all non-essential overseas travel should be avoided. If you do travel overseas, you are expected to restrict your movements for 14 days immediately from your return, during which time you will not be permitted to come to any Trinity campus.

Therefore, as you are required to be available to attend College from the beginning of the new teaching year on 28 September, please ensure you do not return from travel overseas any later than 13 September.
COVID-19 teaching plans

The course delivery method will be of a hybrid nature, adopting a combination of face to face classroom and online learning which will be reviewed and updated based on the evolving COVID-19 situation. Specified slots in the timetable will be allocated for labs, tutorials and other activities taking place face-to-face, while the rest of the content will be delivered online.

All programmes have been developed so that they may be delivered online if it is necessary. The health and safety of students and staff will be paramount.

Students will be divided into “pods” to accommodate the social distancing constraints and the consequent reduction in the capacity of lecture rooms and laboratories. Full details can be found in your timetable.

MAI students attend face-to-face sessions on a weekly basis on Fridays. Sanitize area after lecture

The School of Engineering expects you to physically attend whatever face-to-face teaching is provided, as you would be under normal circumstances. If you wish to request to study remotely for the semester, you should contact your Tutor or the Senior Tutor’s Office. Such requests will be considered on a case-by-case basis and granted only in exceptional circumstances (financial hardship, underlying documented medical condition (including students who are immunocompromised) and/or disability). The School of Engineering will provide a remote alternative for face-to-face activities if you have received permission to study remotely for the semester.
1. Introduction

The MAI year consists of two semesters: lectures take place in Semester 1 and Semester 2; Examinations take place at the end of each semester.

All students complete a research project (CE5E1) (30 ECTS) on which a dissertation must be prepared and submitted by the end of Semester 2 (by 4pm on Friday, 16th April 2021).

In addition, students must take six elective modules, normally three in the Semester 1 and three in Semester 2, worth a total of 30 ECTS. Students who wish to take four modules in either Semester 1 or Semester 2 must obtain permission from the MAI Coordinator.
2. Contacts

2.1 Coordinator
Prof. Bidisha Ghosh is the academic member of staff responsible for the MAI Year 5 Civil Engineering class. If you have any questions relating to the MAI course, Prof. Ghosh will be happy to help. If you need to contact her, email first at bghosh@tcd.ie

2.2 Administrative contacts
Daniel Wearen, Senior Executive Officer wearend@tcd.ie and Ms Mary Curley, Executive Officer curleyma@tcd.ie are both located in the Departmental Office in the Museum Building.

2.3 Academic contacts

<table>
<thead>
<tr>
<th>Staff name</th>
<th>Email</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prof Aonghus Mc Nabola</td>
<td><a href="mailto:amcnabol@tcd.ie">amcnabol@tcd.ie</a></td>
<td>Simon Perry Bldg</td>
</tr>
<tr>
<td>(Head of Department)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prof. Biswajit Basu</td>
<td><a href="mailto:basub@tcd.ie">basub@tcd.ie</a></td>
<td>Simon Perry Bldg</td>
</tr>
<tr>
<td>Prof. Brian Broderick</td>
<td><a href="mailto:bbrodrck@tcd.ie">bbrodrck@tcd.ie</a></td>
<td>Simon Perry Bldg</td>
</tr>
<tr>
<td>Assoc. Prof. Brian Caulfield</td>
<td><a href="mailto:brian.caulfield@tcd.ie">brian.caulfield@tcd.ie</a></td>
<td>Simon Perry Bldg</td>
</tr>
<tr>
<td>Prof. Mark Dyer</td>
<td><a href="mailto:Mark.dyer@tcd.ie">Mark.dyer@tcd.ie</a></td>
<td>Trinity Haus</td>
</tr>
<tr>
<td>Assist. Prof. B. Fitzgerald</td>
<td><a href="mailto:fitzgeb7@tcd.ie">fitzgeb7@tcd.ie</a></td>
<td>Simon Perry Bldg</td>
</tr>
<tr>
<td>Assist. Prof. J Gallagher</td>
<td><a href="mailto:jgallag9@tcd.ie">jgallag9@tcd.ie</a></td>
<td>Red Brick Bldg</td>
</tr>
<tr>
<td>Prof. L Gill</td>
<td><a href="mailto:gill@tcd.ie">gill@tcd.ie</a></td>
<td>Museum Building</td>
</tr>
<tr>
<td>Assist. Prof B Ghosh</td>
<td><a href="mailto:bghosh@tcd.ie">bghosh@tcd.ie</a></td>
<td>Simon Perry Bldg</td>
</tr>
<tr>
<td>Assist. Prof. N Harty</td>
<td><a href="mailto:hertyn@tcd.ie">hertyn@tcd.ie</a></td>
<td>Red Brick Bldg</td>
</tr>
<tr>
<td>Assist Prof. D Igoe</td>
<td><a href="mailto:igoed@tcd.ie">igoed@tcd.ie</a></td>
<td>Red Brick Bldg</td>
</tr>
<tr>
<td>Assoc. Prof. S Mc Cormack</td>
<td><a href="mailto:sarah.mccormack@tcd.ie">sarah.mccormack@tcd.ie</a></td>
<td>Simon Perry Bldg</td>
</tr>
<tr>
<td>Assoc. Prof. D O’Connell</td>
<td><a href="mailto:david.oconnell@tcd.ie">david.oconnell@tcd.ie</a></td>
<td>Chemistry Bldg</td>
</tr>
<tr>
<td>Assoc. Prof. A O’Connor</td>
<td><a href="mailto:alan.oconnor@tcd.ie">alan.oconnor@tcd.ie</a></td>
<td>Simon Perry Bldg</td>
</tr>
<tr>
<td>Assoc. Prof D O’Dwyer</td>
<td><a href="mailto:dwodwyer@tcd.ie">dwodwyer@tcd.ie</a></td>
<td>Museum Bldg</td>
</tr>
<tr>
<td>Assoc. Prof B O’Kelly</td>
<td><a href="mailto:bokelly@mail.tcd.ie">bokelly@mail.tcd.ie</a></td>
<td>Simon Perry Bldg</td>
</tr>
<tr>
<td>Prof. Margaret O’Mahony</td>
<td><a href="mailto:margaret.omahony@tcd.ie">margaret.omahony@tcd.ie</a></td>
<td>Museum Building</td>
</tr>
<tr>
<td>Assoc. Prof. S Pavia</td>
<td><a href="mailto:pavias@tcd.ie">pavias@tcd.ie</a></td>
<td>Simon Perry Bldg</td>
</tr>
<tr>
<td>Assoc. Prof. R West</td>
<td><a href="mailto:rwest@tcd.ie">rwest@tcd.ie</a></td>
<td>Simon Perry Bldg</td>
</tr>
<tr>
<td>Assist. Prof. L. Xiao</td>
<td><a href="mailto:lxiao@tcd.ie">lxiao@tcd.ie</a></td>
<td>Hamilton Bldg</td>
</tr>
<tr>
<td>Mr. David Mc Auley</td>
<td><a href="mailto:damcaley@tcd.ie">damcaley@tcd.ie</a></td>
<td>Simon Perry Bldg</td>
</tr>
<tr>
<td>(Chief Technician)</td>
<td></td>
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</tr>
<tr>
<td>Mr. P Veale</td>
<td><a href="mailto:vealep@tcd.ie">vealep@tcd.ie</a></td>
<td>Red Brick Bldg</td>
</tr>
<tr>
<td>(Environmental Technical Officer)</td>
<td></td>
<td></td>
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</table>
### 3. Key dates

#### 3.1 Academic year calendar

<table>
<thead>
<tr>
<th>Academic Calendar Week</th>
<th>Week beginning</th>
<th>2020/21 Academic Year Calendar</th>
<th>Term / Semester</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>31-Aug-20</td>
<td>Marking/Results</td>
<td>←Michaelmas Term begins/Semester 1 begins</td>
</tr>
<tr>
<td>2</td>
<td>07-Sep-20</td>
<td>Appeals</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>14-Sep-20</td>
<td>Orientation (undergraduate &amp; postgraduate)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>21-Sep-20</td>
<td>Orientation (undergraduate &amp; postgraduate)</td>
<td>←Michaelmas teaching term begins</td>
</tr>
<tr>
<td>5</td>
<td>28-Sep-20</td>
<td>Teaching and Learning</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>05-Oct-20</td>
<td>Teaching and Learning</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>12-Oct-20</td>
<td>Teaching and Learning</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>19-Oct-20</td>
<td>Teaching and Learning</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>26-Oct-20</td>
<td>Teaching and Learning</td>
<td>←Michaelmas term ends Sunday 20 December 2020/Semester 1 ends</td>
</tr>
<tr>
<td>10</td>
<td>02-Nov-20</td>
<td>Teaching and Learning</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>09-Nov-20</td>
<td>Study/Review</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>16-Nov-20</td>
<td>Teaching and Learning</td>
<td></td>
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<tr>
<td>13</td>
<td>23-Nov-20</td>
<td>Teaching and Learning</td>
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<td>14</td>
<td>30-Nov-20</td>
<td>Teaching and Learning</td>
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<tr>
<td>15</td>
<td>07-Dec-20</td>
<td>Teaching and Learning</td>
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<tr>
<td>16</td>
<td>14-Dec-20</td>
<td>Teaching and Learning</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>21-Dec-20</td>
<td>Christmas Period - College closed</td>
<td></td>
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<tr>
<td>18</td>
<td>28-Dec-20</td>
<td>24 December 2020 to 3 January 2021 inclusive</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>04-Jan-21</td>
<td>Revision</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>11-Jan-21</td>
<td>Assessment*</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>18-Jan-21</td>
<td>Assessment*/Foundation Scholarship^</td>
<td>←Hilary Term begins</td>
</tr>
<tr>
<td>22</td>
<td>25-Jan-21</td>
<td>Marking/Results</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>01-Feb-21</td>
<td>Teaching and Learning</td>
<td>←Hilary teaching term begins /Semester 2 begins</td>
</tr>
<tr>
<td>24</td>
<td>08-Feb-21</td>
<td>Teaching and Learning</td>
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</tr>
<tr>
<td>25</td>
<td>15-Feb-21</td>
<td>Teaching and Learning</td>
<td></td>
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<td>26</td>
<td>22-Feb-21</td>
<td>Teaching and Learning</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>01-Mar-21</td>
<td>Teaching and Learning</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>08-Mar-21</td>
<td>Teaching and Learning</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>15-Mar-21</td>
<td>Study/Review (Wednesday, Public Holiday)</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>22-Mar-21</td>
<td>Teaching and Learning</td>
<td></td>
</tr>
</tbody>
</table>
3.2 Teaching weeks
Semester 1: 28\(^{th}\) September to 18\(^{th}\) December 2020

Semester 2: 1\(^{st}\) February to 23\(^{rd}\) April 2021

3.3 Exam dates
Semester 1 examinations: Monday, 11\(^{th}\) to Friday, 22\(^{nd}\) January 2021*

Semester 2 examinations: Monday, 10\(^{th}\) May to Friday, 21\(^{st}\) May 2021*

Reassessment – Semesters 1 & 2 (to be confirmed)

Monday, 29\(^{th}\) August to Friday, 3\(^{rd}\) September 2021*

*Note: extra contingency days may be required outside of the formal assessment/reassessment weeks

3.4 Submission dates for projects

- Interim report submission – Monday, 7\(^{th}\) December 2020 [Semester 1, Wk 11]
- MAI Oral Presentations (PowerPoint) – Monday, 15\textsuperscript{th} March 2021 [Semester 2, Wk 7]
- Final Dissertation Submission – Friday, 16\textsuperscript{th} April 2021 [Semester 2, Wk 11]
- Poster Presentation – Friday, 23\textsuperscript{rd} April 2021 [Semester 2, Wk 12]
- Viva Voca – date to be advised – April 2020.
- Ethics Approval Report – Monday, 1\textsuperscript{st} February 2021 [Semester 2, Wk 1]
- Literature Review – Friday, 26\textsuperscript{th} February 2021 [Semester 2, Wk 4]

3.5 Coursework submission dates

TBC
4. Key locations
5. Timetable
https://www.tcd.ie/Engineering/assets/student-resources/Timetable-MAI-Civil.pdf

Face to Face teaching timetable – will be online while government restrictions for Dublin are in place and unless otherwise stated in advance by module coordinators.

Please note these times are subject to change based upon the national government guidelines.

When you attend in college for face-to-face activities, please make sure that you practice social distancing and personal hygiene in accordance with HSE guidelines. Some specific additional guidance is listed here:

1. Install and use the government Covid tracker app where possible.
2. Complete the HSE health check questions each day before you attend at Trinity. If you have any possible symptoms of covid-19, do not attend at Trinity. If you are a close contact of a suspected or confirmed case do not attend at Trinity.
3. Face masks are now mandatory for all teaching and learning events for all students, in all the Libraries and internal public spaces of the campus. If you have a medical reason for not being able to wear a mask, please ensure that you have documentation for this on your person.
4. In classroom settings, please ensure you maintain at least 1 m distance from other students.
5. Only sit in seats marked as available and do not exceed the capacity of rooms (indicated on doors/seats with stickers and signs).
6. Use hand sanitiser regularly. Carry a hand sanitiser with you at all times. College have set up refilling stations at all entrances to campus.
7. In classroom settings staff must ensure to keep 2m distance from students.
8. Wipe down the surfaces in your work and seating area prior to and on completion of your lecture, tutorial or lab using the disinfectant wipes available. Used wipes can be disposed of in the bins provided.
9. Practice the correct coughing and sneezing etiquette at all times
10. Keep a written or electronic log of rooms you have attended and the times for these. Where possible, please keep a log of people that you have been closer to than 2 m for more than 15 minutes.
11. Follow the guidelines for toilet usage written on the toilet doors
12. Maintain social distancing at all times, including outside of classrooms. Stick to the “stay right rule” when walking in corridors.
13. Where possible, do not socialize outside of your allotted group
14. If you develop symptoms of COVID-19 while at Trinity, please follow the attached procedures (note, these procedures are subject to updates).

We are all in this together. Please report any concerns to the Covid-19 Coordinator for the Dept. of Civil Eng on DAMCALEY@tcd.ie.
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 have obtained credit for all five years of the course are entitled to be conferred with the degrees of B.A., B.A.I. and M.A.I. (St.).

6.3 School of Engineering Examination Regulations
www.tcd.ie/Engineering/assets/student-resources/Examination-Regulations.pdf

There are no supplemental examinations or re-sits to improve in the MAI year.

6.4 External Examiner
Prof Joan R. Casas is Professor of Bridge Engineering at the School of Civil Engineering of Barcelona, Universitat Politecnica de Catalunya.

7. Programme learning outcomes
As required by Engineers Ireland, the Programme Outcomes are as follows:

a) Advanced knowledge and understanding of the mathematics, sciences, engineering sciences and technologies underpinning their branch of engineering.

b) The ability to identify, formulate, analyse and solve complex engineering problems.

c) The ability to perform the detailed design of a novel system, component or process using analysis and interpretation of relevant data.

d) The ability to design and conduct experiments and to apply a range of standard and specialised research (or equivalent) tools and techniques of enquiry.

e) An understanding of the need for high ethical standards in the practice of engineering, including the responsibilities of the engineering profession towards people and the environment.
f) The ability to work effectively as an individual, in teams and in multidisciplinary settings, together with the capacity to undertake lifelong learning.

g) The ability to communicate effectively on complex engineering activities with the engineering community and with society at large.

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.

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.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Module Title</th>
<th>ECTS</th>
<th>Semester</th>
<th>Coordinator</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE5E1</td>
<td>5E1 Civil Engineering Research Project</td>
<td>30</td>
<td>1</td>
<td>Bidisha Ghosh</td>
</tr>
<tr>
<td><strong>Mandatory Modules</strong></td>
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<tr>
<td>CE7C04</td>
<td>C4 Façade Engineering</td>
<td>5</td>
<td>1</td>
<td>Patrick Shiel</td>
</tr>
<tr>
<td>CE7E03</td>
<td>E3 Air Pollution: Impact, Assessment and Mitigation</td>
<td>5</td>
<td>1</td>
<td>John Gallagher</td>
</tr>
<tr>
<td>CE7E07</td>
<td>E7 Sustainable Water Supply and Sanitation</td>
<td>5</td>
<td>1</td>
<td>Laurence Gill</td>
</tr>
<tr>
<td>CE7J02</td>
<td>J2 Solar Energy Conversion and Applications</td>
<td>5</td>
<td>1</td>
<td>Sarah McCormack</td>
</tr>
<tr>
<td>CE7J04</td>
<td>J4 Energy Policy and Demand</td>
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<td>1</td>
<td>Brian Caulfield</td>
</tr>
<tr>
<td>CE7S01</td>
<td>S1 Geotechnical Engineering</td>
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<td>Brendan O’Kelly</td>
</tr>
<tr>
<td>CE7S02</td>
<td>S2 Advanced Structural Analysis</td>
<td>5</td>
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<td>Dermot O’Dwyer</td>
</tr>
<tr>
<td>CE7S03</td>
<td>S3 Wind and Earthquake Engineering</td>
<td>5</td>
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<td>Brian Broderick</td>
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<tr>
<td>CE7S09</td>
<td>S9 Advanced Theory of Structures</td>
<td>5</td>
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<td>Breiffni Fitzgerald</td>
</tr>
<tr>
<td>CE7T01</td>
<td>T1 Transportation Policy</td>
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<td>Bidisha Ghosh</td>
</tr>
<tr>
<td>CE7T02</td>
<td>T2 Transport Modelling and Planning</td>
<td>5</td>
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<td>Brian Caulfield</td>
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<tr>
<td><strong>Semester 1 Electives</strong></td>
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<tr>
<td>CE7C05</td>
<td>C5 Advanced Spatial Analysis using GIS</td>
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<td>E4 Waste Management and Energy Recovery</td>
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<td>2</td>
<td>Liwen Xiao</td>
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<td>CE7E05</td>
<td>E5 Water Quality and Hydrological Modelling</td>
<td>5</td>
<td>2</td>
<td>Laurence Gill</td>
</tr>
<tr>
<td>CE7E06</td>
<td>E6 Water Resource Planning and Climate Change</td>
<td>5</td>
<td>2</td>
<td>David O’Connell</td>
</tr>
<tr>
<td><strong>Semester 2 Electives</strong></td>
<td></td>
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</tr>
</tbody>
</table>
Module descriptors are available at the below link. Module choices should be motivated by the topic of the MAI Project and no more than three electives can be taken in any one semester.

www.tcd.ie/Engineering/undergraduate/bai/year-5/

In addition to the above list of modules one appropriate Senior Sophister (SS) year module can be taken by MAI students and a second may be taken if permission is sought and granted by the MAI Coordinator.

To enable an appropriate fifth-year study plan for all students who go on internship in the second semester of their fourth year and for those students who have studied abroad for all or part of their fourth year, it will be allowable in some circumstances for fifth-year students to take up to 10 ECTS of appropriate fourth-year modules. These modules must be chosen so as to strengthen their chosen area of specialism and, where possible, also support their fifth-year project work. The choice of modules for the fifth-year for all students intending on going on internship should be made with the agreement of the Head of Discipline or his/her delegate. Note: timetabling requirements will prevail and may prevent particular combinations of modules which are acceptable from an academic perspective. In these limited cases where fifth-year students do take some fourth year modules (up to a maximum of 10 ECTS), different assessment procedures will apply, and hence different module codes and MAPS will be needed. In general, the pass requirement for fifth-year students will be 50%.
Funding of not more than €400 is available to each student to help with the costs of the Civil Engineering Research Project.

**9.2 Coursework requirements**

**9.2.1**
Assignments and coursework should be submitted on-line on the module backboard page within the deadline as instructed by the module or coursework coordinator.

**9.2.2 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 (JS/SS/MAI/MSc) and **ALL** modules within the Discipline of Civil, Structural and Environmental Engineering, late submissions may be penalized.

**9.2.3 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**
COLLEN PRIZES
These prizes were founded in 1957 by a gift from L.D.G. Collen, M.A., M.A.I. to encourage interest in current engineering practice. Six prizes are offered annually in the fifth year of the M.A.I. degree course, one in each of the following: (i) Biomedical Engineering, (ii) Civil, Structural and Environmental Engineering, (iii) Computer Engineering, (iv) Electronic and Electrical Engineering, (v) Mechanical and Manufacturing Engineering, (vi) Engineering with Management, for the best project or joint project on the nomination of the Head of stream. Value, €80 each.

M.A.I. STREAM PRIZES
These prizes were established in 2015 in order to recognise the best M.A.I. student in each of the engineering streams and are awarded annually to the student(s) obtaining the highest aggregate of marks at the annual M.A.I. examination. They are funded by the three departments in the School of Engineering and by the School of Computer Science and Statistics. Value, €300.

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

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 Department of Civil, Structural and Environmental Engineering:

https://www.tcd.ie/civileng/facilities/safety-statement/

Assist. Professor David Igoe the member of the academic staff who deals with safety. If you have any questions or concerns relating to safety you should contact him at igoed@tcd.ie. Remember safety is everyone’s concern, if you see something that is unsafe please notify us.

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.

12.3 College Health Service
The Health Centre is situated on Trinity Campus in House 47, a residential block adjacent to the rugby pitch.
Opening hours: 09.00 - 16.40 with emergency clinics from 09.00 - 10.00.
Tel: 01 896 1591 or 01 896 1556
Web: https://www.tcd.ie/collegehealth/

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

Steve Brunn (Anglican Chaplain): brunns@tcd.ie; tel: 01 896 1402
Julian Hamilton (Methodist Chaplain): julian.hamilton@tcd.ie; tel: 01 896 1901
Alan O’Sullivan (Catholic Chaplain): aeosulli@tcd.ie; tel: 01 896 1260
Peter Sexton (Catholic Chaplain): sextonpe@tcd.ie; tel: 01 896 1260
Web: https://www.tcd.ie/Chaplaincy/

12.5 Trinity Disability Service
Declan Treanor, Disability Services Coordinator
Room 3055, Arts Building
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://www.maths.tcd.ie/Info_for_Schools/Maths_Helproom.php

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/.

12.13 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/

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

Trinity College also has a huge range of sports clubs which are governed by the Dublin University Athletic Club (DUCAC). See http://www.tcd.ie/Sport/student-sport/ducac/?nodeId=94&title=Sports_Clubs for more details.
12.15 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

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/academicregistry/student-cases/](http://www.tcd.ie/academicregistry/student-cases/)

**13.2 Absence from examinations**

The following is an extract from the College Calendar outlining the College policy on absence from Examinations and non-submission of coursework:

47 Students are required to complete the assessment components for each module as prescribed by the programme regulations. See Assessment: procedures for the non-submission of course work and absence from examinations at [www.tcd.ie/teaching-learning/academic-policies/](http://www.tcd.ie/teaching-learning/academic-policies/) and [www.tcd.ie/teaching-learning/academic-policies/assets/assess-nonsub-absence-sep2020.pdf](http://www.tcd.ie/teaching-learning/academic-policies/assets/assess-nonsub-absence-sep2020.pdf)

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 practice, 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

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

<table>
<thead>
<tr>
<th>Mark Range</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>90-100</td>
<td>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.</td>
</tr>
<tr>
<td>80-89</td>
<td>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.</td>
</tr>
<tr>
<td>70-79</td>
<td>MAINLY OUTSTANDING ANSWER; falls short on presentation and reading or thought beyond the course but retains insight and originality typical of first class work.</td>
</tr>
<tr>
<td>65-69</td>
<td>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.</td>
</tr>
<tr>
<td>60-64</td>
<td>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 tolerated.</td>
</tr>
<tr>
<td>55-59</td>
<td>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 with lapses in detail.</td>
</tr>
<tr>
<td>50-54</td>
<td>INCOMPLETE ANSWER; suffers from significant omissions, errors and misunderstandings, but still with understanding of main concepts and showing sound knowledge. Several lapses in detail.</td>
</tr>
<tr>
<td>45-49</td>
<td>WEAK ANSWER; limited understanding and knowledge of subject. Serious omissions, errors and misunderstandings, so that answer is no more than adequate.</td>
</tr>
</tbody>
</table>
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 question.

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

<table>
<thead>
<tr>
<th>Mark Range</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>90-100</td>
<td>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. Overall an exemplary project report of publishable quality (e.g. peer reviewed scientific journal/patent application).</td>
</tr>
<tr>
<td>80-89</td>
<td>An excellent project report clearly showing evidence of wide reading far above that of an average student, with excellent presentation and in-depth analysis of results. Clearly demonstrates an ability to critically evaluate and discuss research findings in the context of relevant literature. Obvious demonstration of insight and novelty/originality. An excellently executed report overall of publishable quality (e.g. short peer reviewed conference paper such as IEEE) with very minor shortcomings in some aspects.</td>
</tr>
<tr>
<td>Score Range</td>
<td>Project Description</td>
</tr>
<tr>
<td>-------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>70-79</td>
<td>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 and breadth of work similar to the requirements for an abstract at an international scientific conference.</td>
</tr>
<tr>
<td>60-69</td>
<td>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.</td>
</tr>
<tr>
<td>50-59</td>
<td>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 and presentation of the results.</td>
</tr>
<tr>
<td>40-49</td>
<td>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.</td>
</tr>
<tr>
<td>20-39</td>
<td>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.</td>
</tr>
<tr>
<td>0-19</td>
<td>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.</td>
</tr>
</tbody>
</table>

### 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).