



# **Masters of Engineering in Sustainable Infrastructure**

DT9417 (Full-time)

DT9418 (Part-time)

Student Handbook

September 2016

School of Civil & Structural Engineering  
College of Engineering and the Built Environment  
Dublin Institute of Technology, Bolton Street



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## Welcome

On behalf of my colleagues in the School of Civil and Structural Engineering, I would like to welcome you as a student in the Dublin Institute of Technology. DIT has a proud tradition of teaching Civil and Structural Engineering, and we continuously strive to maintain the highest standards in engineering education. Your one year full-time or two year part-time programme of study leads to the Masters of Engineering in Sustainable Infrastructure degree awarded by DIT.

All our programmes are delivered in modular format which will make your study period here more focused and manageable. Classes are small enough to allow for regular interaction between students and staff. Please do not hesitate to talk to any staff member if you have any questions or problems. Full contact details for all staff are available in this handbook.

I hope that you will enjoy your time here and that you will become involved with the many events and activities taking place throughout the year. You are most welcome to DIT and I wish you every success.

Dr. Niall Holmes

Assistant Head of School & Programme Director

Contact details: Room 241, Phone: (01) 402 4039, e-mail: [niall.holmes@dit.ie](mailto:niall.holmes@dit.ie)



## Welcome to the School

Welcome to the College of Engineering & Built Environment at the Dublin Institute of Technology and thank you for choosing the School of Civil Engineering to continue your studies. We expect that this programme will be an exciting and rewarding experience for you. The College at Bolton Street has a long tradition of academic excellence in engineering education. We have just celebrated our centenary as a major centre for technical education in the city of Dublin.

The Master of Engineering in Sustainable Infrastructure is designed for graduates of Civil, Structural and Environmental Engineering. We consider applicants from appropriate related engineering and scientific disciplines. The aim of the programme is to prepare our graduates for the challenge of developing and sustaining infrastructure to support society.

This course handbook offers much of the information you will require throughout the programme. It includes details on such things as the School, assessment and examination regulations, module descriptors, programme outline, staff and contact details. The handbook is also a source of helpful advice and guidance to ensure that you use your time wisely and get the most from your studies.

I hope that you enjoy your studies in the School and find the programme both rewarding and stimulating.

Wishing you every success in your studies.

John Turner  
Head of School  
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## About DIT

With a history stretching back over one hundred and twenty years, Dublin Institute of Technology has been recognised as a pioneer in technological higher education: the Institute's alumni have played important roles in technical and scientific innovation, economic and social development and culture and education both in Ireland and internationally. We nurture innovation and creativity across and between disciplines and have been committed to making education accessible to people from diverse backgrounds since our inception.

Dublin Institute of Technology provides a lively environment for interaction among students and between students and colleagues. Our aim is to provide the best educational experience for each and every one of our students. Dublin Institute of Technology students participate in a wide array of extra-curricular activities, societies and clubs. Located at the heart of the social, cultural and business life of Ireland's capital city, Dublin Institute of Technology provides rich opportunities for intellectual and personal development. Our graduates demonstrate the confidence, interpersonal skills and the commitment to innovation crucial to their professional and personal lives.

Extensive information about all aspects of DIT is available on the website: [www.dit.ie](http://www.dit.ie). There are many useful links on the home page such as “Information for current students”, Student e-mail, Webcourses (for online course materials), and “Staff contacts”.

## Programme details

### Staff details

Note: Full contact details of all staff are available [here](#) on the DIT website

### Programme management

		Phone	e-mail
John Turner	Head of School	402 3654	john.turner@dit.ie
Ms. Una Beagon	Assistant Head of School	402 3638	una.beagon@dit.ie
Dr. Niall Holmes	Assistant Head of School	402 4039	niall.holmes@dit.ie

### Year Tutors

	Stage / Year	Phone	e-mail
Garrett Keane	All	402 2917	Garrett.keane@dit.ie



## Staff Contact Details

Name	Position	Number	e-mail	Location
John Turner	Head of School	01 4023654	john.turner@dit.ie	Room 243 Bolton St.
Una Beagon	Assistant Head of School	01 4023638	una.beagon@dit.ie	Room 240 Bolton St.
Niall Holmes	Assistant Head of School	01 4024039	niall.holmes@dit.ie	Room 241 Bolton St.
Martin Rogers	Senior Lecturer	01 4023837	martin.rogers@dit.ie	Room 245 Bolton St.
Caroline O'Dowd	School Administrator	01 4023711	caroline.odowd@dit.ie	Room 239 Bolton St.
Aimee Byrne	Assistant Lecturer	01 4022914	aimee.byrne@dit.ie	Room 224 Bolton St.
Patrick Crean	Assistant Lecturer	01 402xxxx	patrick.crean@dit.ie	Room 224 Bolton St.
Lorraine D'Arcy	Assistant Lecturer	01 4023817	lorraine.darcy@dit.ie	Room 224 Bolton St.
Aidan Duffy	Lecturer	01 4023940	aidan.duffy@dit.ie	Room 151 Bolton St.
Bernard Enright	Lecturer	01 4023888	bernard.enright@dit.ie	Room 245 Bolton St.
Breiffni Fitzgerald	Assistant Lecturer	01 4023714	breiffni.fitzgerald@dit.ie	Room 224 Bolton St.
Garrett Keane	Assistant Lecturer	01 4022917	garrett.keane@dit.ie	Room 245 Bolton St.
Henry Mullen	Lecturer	01 4023765	henry.mullen@dit.ie	Room 224 Bolton St.
Liam McCarton	Lecturer	01 4022983	liam.mccarton@dit.ie	Room 403 Bolton St.
Ahmed Nasr	Lecturer	01 4023933	ahmed.nasr@dit.ie	Room 224 Bolton St.
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Dervilla Niall	Assistant Lecturer	01 4024043	dervilla.niall@dit.ie	Room 487 Bolton St.
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Sean O'Hogain	Lecturer	01 4023907	sean.ohogain@dit.ie	Room 404 Bolton St.





Caitriona Quinn	Assistant Lecturer	01 4023812	caitriona.quinn@dit.ie	Room 224 Bolton St.
Margaret Rogers	Lecturer	01 4023889	margaret.rogers@dit.ie	Room 245 Bolton St.
Anna Reid	Senior Technical Officer	01 4023693	anna.reid@dit.ie	Room 492 Bolton St.
David Thompson	Technician	01 4022995	david.thompson@dit.ie	Room 607 E Block
Conor Keaney	Technical Officer	01 4023624	conor.keaney@dit.ie	Room 193 Bolton St.
Niall Conroy	Class Aide	01 4022996	niall.conroy@dit.ie	Room 607 E Block

## Programme Teaching Staff

Modules	
Dr. Michael Carr	<ul style="list-style-type: none"> <li>▪ Statistics for Engineers</li> </ul>
Professor Aidan Duffy	<ul style="list-style-type: none"> <li>▪ Introduction to Sustainable Infrastructure</li> <li>▪ Energy Infrastructure</li> </ul>
Mr. Kevin Delaney	<ul style="list-style-type: none"> <li>▪ Innovation &amp; Knowledge Management</li> </ul>
Richard Heywood Jones	<ul style="list-style-type: none"> <li>▪ Entrepreneurship for Engineers</li> </ul>
Mr. Garrett Keane	<ul style="list-style-type: none"> <li>▪ Finite elements for Science &amp; Engineering</li> </ul>
Mr. Liam McCarton	<ul style="list-style-type: none"> <li>▪ Climate Resilient Infrastructure</li> </ul>
Dr. Ahmed Nasr	<ul style="list-style-type: none"> <li>▪ Water Resources &amp; Quality Management</li> </ul>
Dr. Seán Ó Hógáin	<ul style="list-style-type: none"> <li>▪ Climate Resilient Infrastructure</li> <li>▪ Waste &amp; Environmental Management Systems</li> </ul>
Dr. Martin Rogers	<ul style="list-style-type: none"> <li>▪ Traffic Planning &amp; Simulation</li> </ul>
Ms. Caitriona Walsh	<ul style="list-style-type: none"> <li>▪ Waste &amp; Environmental Management Systems</li> </ul>
Dr. Lorraine D’Arcy	<ul style="list-style-type: none"> <li>▪ Traffic Management &amp; Road Safety</li> </ul>
Dr. Breiffni Fitzgerald	<ul style="list-style-type: none"> <li>▪ Advanced Structural Design</li> <li>▪ Structural Analysis &amp; Dynamics</li> </ul>

## Programme Awards

### Postgraduate Certificate Award

Participants who successfully complete an approved selection of 6 taught modules as specified below are eligible for the DIT award of **Postgraduate Certificate (PGCert) in Sustainable Infrastructure**. This award will be made with the following classifications under the General Assessment Regulations of the DIT:

Overall Mark	Classification
40% - 49%	Pass
50% - 59%	Lower Merit
60% - 69%	Upper Merit
70% and above	Distinction

### Postgraduate Diploma Award

Participants who successfully complete an approved selection of 12 taught modules as specified below are eligible for the DIT award of **Postgraduate Diploma (PGDip) in Sustainable Infrastructure**. This award will be made with the following classifications under the General Assessment Regulations of the DIT:

Overall Mark	Classification
40% - 49%	Pass
50% - 59%	Lower Merit
60% - 69%	Upper Merit
70% and above	Distinction

### Master of Engineering Award

Participants who successfully complete a Thesis in addition to the above are eligible for the DIT award of **ME in Sustainable Infrastructure**. The award will be made with the following



classifications under the General Assessment Regulations of the DIT, based on the aggregate of the marks for the taught modules and the Thesis:

Overall Mark	Classification
40% - 49%	Pass
50% - 59%	Second Class Honours grade II
60% - 69%	Second Class Honours grade I
70% and above	First Class Honours

## Programme Learning outcomes

1. Advanced knowledge and understanding of the mathematics, sciences, engineering sciences and technologies related to sustainable infrastructure;
2. Be aware of, and be able to discuss, the key principles and techniques and facts that would be required to participate at a professional level in decision making relating to sustainable infrastructure;
3. The ability to identify, formulate, analyse and solve complex engineering problems.
4. Have a detailed knowledge of the issues associated with the development of sustainable/renewable energy systems;
5. The ability to design and conduct experiments and to apply a range of standard and specialised research (or equivalent) tools and techniques of enquiry;
6. Develop a competency in statistical methods and to apply these methods in the analysis of research and experimental data;
7. 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;
8. The ability to work effectively as an individual, in teams and in multi-disciplinary settings, together with the capacity to undertake lifelong learning;
9. Ability to communicate effectively on complex engineering activities with the engineering community and with society at large;



## Class timetables

The academic calendar for the current year is available at:

<http://www.dit.ie/academicaffairsandregistrar/calendar/>

The academic year is divided into two semesters. Each semester has 12 lecture weeks, a review week, usually half-way through the semester, and 2 weeks for examinations. The first semester starts in mid-September and finishes with examinations in January. The second semester starts in late January / early February and finishes with examinations in May. Current class timetables are available on the web at <http://webtimetables.dit.ie> User Name “students”, Password “timetables” Note that the week numbers in the timetable are 4-16 for Semester 1 and 23-37 for Semester 2.



## Programme Structure

The full-time programme is delivered in approximately one calendar year. The thesis will be submitted in the October.

Candidates who complete the taught programme and graduate with a PGDip award may return at a later stage and undertake the thesis. In such cases, their award will be based on the aggregate of their performance on the taught programme and the thesis.

Candidates for the Postgraduate Certificate award should contact the programme coordinator to discuss suitable sets of six modules.

The programme may be delivered in full-time and part-time mode. The part-time programme will only be offered if there is a viable cohort of students registered on the programme. The part-time programme may be delivered during the day and evening as appropriate. The part-time programme will be delivered in 30 credit segments over the calendar year. A part-time student would be expected to normally complete the programme in three calendar years. The part-time students register on a per module basis subject to availability and their personal study plan. It is possible for a student to request a transfer in registration between the full-time and part-time programmes. Once a part-time student registers on a module, it is expected that they will complete the module during the period of their registration.

A part-time student may submit a proposal for the project after they have completed at least 30 Credits. The formal work on the Thesis may only commence after the student has completed 60 Credits. The Thesis may be submitted before the end of the following semester.

Table 1 shows the modules offered in the programme. All taught modules are 5 ECTS credits and run over one semester. The Core Modules are mandatory for all students who take the programme within the DIT. The Modules ENTR1950, MECH9002, RESM1950 and STAT1950 are delivered by the School of Business, School of Mechanical Engineering, School of Electrical & Electronic Engineering and the Multidisciplinary Technology respectively.

Module Code	Module Title	Module Type	ECTS Credits
ENTR1950	Entrepreneurship for Engineers	Core/Mandatory Modules	5
MECH9002	Innovation and Knowledge Management		5
RESM1950	Research Methods		5
STAT1950	Statistical Analysis for Engineers		5
CIVL9000	Introduction to Sustainable Infrastructure		5
CIVL9001	Finite elements in science and engineering	Civil Engineering Modules	5
CIVL9002	Water Resources and Quality Management		5
CIVL9003	Climate Resilient Infrastructure		5
CIVL9004	Transport Planning & Simulation		5
CIVL9005	Traffic Management & Road Safety		5
CIVL9006	Energy Infrastructure		5
CIVL9007	Waste and Environmental Management Systems		5
STRL9000	Advanced Structural Design		5
STRL9001	Structural Analysis & Dynamics		5
CIVL9008	Sustainable Infrastructure Research Project		30



## Module marking breakdown

No.	Module Title	Assessment Components		
		Coursework	Examination	ECTS Weighting
ENTR1950	Entrepreneurship for Engineers	50%	50%	5
MECH9002	Innovation and Knowledge Management	40%	60%	5
RESM1950	Research Methods	100%		5
STAT1950	Statistical Analysis for Engineers	40%	60%	5
CIVL9000	Introduction to Sustainable Infrastructure	40%	60%	5
CIVL9001	Finite Elements for Sustainable Infrastructures	40%	60%	5
CIVL9002	Water Resources and Quality Management	50%	50%	5
CIVL9003	Climate Resilient Infrastructure	50%	50%	5
CIVL9004	Transport Planning & Simulation	50%	50%	5
CIVL9005	Traffic Management & Road Safety	50%	50%	5
CIVL9006	Energy Infrastructure	40%	60%	5
CIVL9007	Waste & environmental Systems Management	100%		5
STRL9000	Advanced Structural Design	40%	60%	5
STRL9001	Structural Analysis & Dynamics	40%	60%	5
ACEI9001	Infrastructure Health & Safety	100%		5
ACEI9002	Designing for Safety in Construction	100%		5
CIVL9008	Research Project	100%	0%	30



## **Pre-requisites for the Structural Engineering Modules;**

There are no pre-requisites for the modules on the programme with the exception of the two modules in Structural Engineering; STRL:9011 and STRL9012.

It is a requirement that students hold a professionally accredited NFQ Level 8 award in Structural Engineering or Civil Engineering where there are specific Structural Engineering subjects taken in the final year.



## **ACEI Modules**

The Association of Consulting Engineers of Ireland (ACEI) delivers two modules in partnership with the School of Civil Engineering. These modules are only available to students through the ACEI. It is not intended that these modules will be offered to students directly by the School.

The students who have successfully completed the modules ACEI9011 and/or ACEI9012 as prescribed and who successfully register for the programme will be exempt from taking one or other of the following modules ENTR1950 and MECH9002 depending on the number of modules taken.

In this case the module(s) result will be included in calculating the overall classification of the respective award.

## Assessment Regulations

The General Assessment Regulations of the DIT apply to this programme. In addition, the following regulations apply.

### Penalties for Late Assignments

The following penalty system is applied to coursework assignments submitted after the published submission date.

Period of Lateness	Penalty to be imposed
up to 1 week	10% deducted from mark awarded
up to 2 weeks	20% deducted from mark awarded
over 2 weeks	maximum mark available is 40%

Assignments are initially marked according to the marking scheme and without regard to the lateness of submission. If a penalty is due, it is applied to this original mark.

Assignments received within one or two weeks following the due date have their mark reduced to 90% and 80% of the original mark, respectively.

Assignments received more than two weeks late may only attract a bare pass mark: If the original mark is greater than 40%, the assignment is given a 40% pass mark. If the assignment originally gets a fail mark, this mark is given. *Note that this does not mean that the assignment gets 40% of the original mark.*



## **Written Examinations**

Almost all modules have a written examination at the end of the semester or the year. The purpose of a written examination is to assess your knowledge of the subject area, and your ability to use that knowledge to answer specific problems, without reference to outside written material.

### **When are the exams held?**

Examinations are normally held in January and May. The start date of examinations is in the academic calendar (<http://www.dit.ie/services/academicaffairsandregistrar/calendar>) and in the course handbook. Exams are scheduled over a period of approximately 2 weeks following this date.

Please note that due to the very large number of courses held in Bolton Street, the scheduling of exams is complex, and no guarantees can be made at the start of the year as to exact dates of individual examinations.

### **Do I need to do anything in order to sit exams?**

Students who are properly registered for their programme will be sent examination documentation as the exams approach. There is no requirement to register for the examinations, and no examination fees are payable. However, students who return to college solely to repeat exams will need to register as an external repeat student and pay a registration fee.

Every effort is made to ensure that exams are spread out in a reasonable manner. However, the dates of examinations are fixed, and cannot normally be changed to suit the requirements of students.

### **When will the results come out?**

Exam results are considered by the examination board (all course lecturers, relevant department and school heads, and the external examiners) at a formal exam board meeting, normally held about two weeks after the end of the exams:

Pass / Pass with Merit/Second class honours etc – programme successfully completed

*2 Exemptions, etc* – you have passed 2 subjects on a part-time or modular course



*Refer in ...* – you have failed these subjects, or components of these subjects, and must retake them

Results are available online once they have been finalised and approved. You will be sent instructions on how to access these results via your e-mail accounts. Full detailed results, with actual marks, are posted to students in the days following the exam board meeting. If details are required urgently (for job applications etc), you should contact your head of department.

### **How do I prepare?**

Although the content of each exam is obviously not known to you in advance, you can get a good idea of what to expect by reading past papers. If you prepare properly, you should certainly have at least a reasonable idea of what your examination might look like.

You should read past examination papers, which are available on the library intranet, and attempt to answer exam questions. Your lecturer will be able to work through questions with you. Closer to the time, you should attempt to answer questions in realistic conditions – no books, strictly allotted time etc.

Once you have finished each major topic in the course, you should look at some past questions, to get a feel for the style and depth of questions asked. Remember though, any part of the course as published on the syllabus is examinable, and past papers are not a guide to what may be on your paper!

### **Reading the Paper**

You should always allow time at the start of the exam to thoroughly read the questions on the paper, and the instructions at the top of the page. Make sure you are aware of the following:

- Do I have the correct exam paper? (several groups may be in the same room)
- How long is the exam?
- How many questions are on the paper?
- How many questions must I answer?
- If there are sections, do I have to answer a minimum number from each section?
- Are there any compulsory questions?

- Do all questions carry the same number of marks?
- How much time do I have for each question?  
(duration of exam minus review time at start and end) divided by (no. of questions)

## Reading Questions

When you look at an exam question, you should always do several things:

Make sure you know how many parts there are to a question and how much is going for each part (If part (a) is worth 2 marks, and part (b) is worth 18, you obviously need to spend most of your time on part (b)!).

Make sure you look carefully at the words used in the question – define, explain, illustrate, work out, summarise, list and so on, and make sure you know what is required for each one. For example, *list* means just that – make a list of the items requested, while *explain* would require that you explain each one in detail, and *discuss* would require that you explain and compare them.

## How is the exam marked?

The examination is marked in accordance with a predefined marking scheme. Marks are allocated to all information which is relevant to the question being answered.

If you answer more than the minimum number of questions, the marks for the best set of questions will be taken.

If there are compulsory questions, you must answer them. For example, if you are required to answer question 1 and 4 other questions, and you answer questions 2,3,4,5 and 6, you will only get marks for the best 4 of these questions.

If you are required to answer a minimum number of questions from each section, you must do so. For example, if the instruction says “*Answer 5 questions, including at least two from each section, A and B*” and you answer 4 from section A and 1 from section B, you will again be marked on 4 questions.



### **Can I be Exempted from a subject?**

Exemption due to Recognition of Prior Learning is possible in some circumstances. This area is covered by the DIT's RPL policy, which can be seen on the Institute website here:

<http://www.dit.ie/services/academicaffairsandregistrar/recognitionofpriorlearning/>

Please note that exemptions must be applied for at the start of the year in which the exemption would apply. Also, you may still need to pay a fee for an exempted module. You should check the current Institute fee policy to see what the requirement is.

### **What happens if I miss an examination?**

If you miss an examination due to illness, or other exceptional circumstances, you must inform your head of department as soon as possible, providing appropriate written evidence.

If you miss an examination without valid reason, you forfeit one of the four attempts to complete it. In the final year of a programme this may affect your final qualification.

If you are aware in advance of an examination that you will be unable to sit it, you should seek a deferral from your head of department. If there are grounds, the examination will be deferred until the next opportunity (usually the Autumn examinations). Deferral should be requested at least one month in advance of the examinations. Deferrals requested after this time will only be considered in exceptional circumstances.

### **What happens if I fail an examination?**

You are normally entitled to four attempts to pass a stage of a course. Normally, examinations are held in January and May (sessional), and in Autumn (supplemental). If you fail an exam, you are entitled to three further attempts to take the paper, normally supplemental, and sessional and supplemental the following year.

You should be aware that most modules on these programmes have at least two components, and in addition to obtaining an overall pass mark of 40%, you are also required to get at least 30% in each component. It is therefore possible to exceed the pass mark overall, but still need to repeat one component because the minimum level was not met.





If you fail a subject, you therefore need to look carefully at your results to see which components need to be repeated. Written examinations are scheduled by the examinations office, and local arrangements are made in regard to repeat coursework and lab tests. Typically, repeat assignments are issued for completion over the summer, and lab tests are arranged during the repeat examinations in early September.

### **What happens if circumstances affect my performance in an exam ?**

If due to personal or other difficulties, you feel that your performance in an assessment was adversely affected you may wish to bring this to the attention of the Examination Board. A *Personal Circumstances Form* (Form P/C 1 - available from the Examinations Office and online at the link given in this section), supported by independent authoritative evidence must be completed and returned to the Examinations Office. It is the candidate's responsibility to provide such information.

In the case of course work, the deadline for submitting a Personal Circumstances form is normally the same as the scheduled hand-in date for the assignment. In the case of examinations, the completed form should be submitted not later than two days after the last examination taken. An unsuccessful outcome arising from this process may not be used as grounds for appeal.

### **What happens if I am unhappy with an exam result?**

In the first instance, you have the right to view your assignment or script in order to see how the marks were allocated. If you are unhappy with your result, the Institute's General Assessment Regulations outline the procedures whereby a candidate may:

- Seek a recheck of examination results
- Seek a remark of an examination paper
- Appeal the decision of an Examination Board

Candidates should be aware that these are **three separate procedures**. In order to exercise the right to them, a candidate must complete the relevant form for submission to the Examinations Office. *Please see section 14 of the general assessment regulations for details on the following procedures.*



## Procedure for examination scripts, remarks and appeals

Candidates who wish to discuss their examination performance in any assessment [see section 14.1 of Regulations] should contact the School/Department. Each semester Examination Offices publish a calendar of dates for the publication of results and Schools publish dates for the viewing of examination scripts. Viewing of examination scripts and provision of feedback shall normally be scheduled within four days of the publication of results. The Head of School or nominee shall produce the assessed work and demonstrate to the candidate the basis on which the marks were awarded.

All documentation relevant to examinations, appeals etc is contained in sections 10 to 14 of the general assessment regulations and can be found here:

*<http://www.dit.ie/qualityassuranceandacademicprogrammerecords/student-assessment-regulations/general/>*

## Coursework Assignments

You will be given coursework assignments in all of your subjects during the year. Normally, there are two assignments per module, although this can vary. Typically, assignments count for 30-40% of the available marks in a subject (with examinations counting for the rest), so they are an important part of the learning process.

An assignment is a measure of your ability to carry out a detailed and extensive task related to the subject. For example, you may be asked to design, develop and test a computer program, or you may be given an example of a company's computing requirements and asked to specify a network for them. We are looking for several things in assignments such as these:

- your knowledge of the subject area
- your ability to apply this knowledge to the specific problem
- your ability to deliver a working solution
- your ability to present this work in a written submission

Suppose you are asked to write a computer program to perform a certain function. A good assignment will have the following characteristics:

- an appropriate design of the program was done before work started on coding.
- program code was appropriate, bug-free, well-written and readable.
- the application did everything it was supposed to do and was easy to use.
- suitable testing of the application was carried out.
- clear documentation was provided.

### How are assignments marked?

The assignment will be marked on all aspects of the above. For example, a working application with no supporting design will not score high marks, even if it is a very good solution. Similarly, a brilliant design and conception will not score top marks unless it has been fully implemented and it works!



We are generally looking for a combination of analytical and practical skills, so when you are given an assignment, you should make sure you devote some of your time to each aspect of it.

### **Group Assignments**

Group assignments are sometimes used when it is appropriate that people work in teams on an assignment. This is an essential skill and is one which you will almost certainly need to use in the workplace. When working in groups, it is essential that you agree at the start on how you will work together and operate as a team throughout the duration of the assignment. In particular, you should:

- Make sure that each group member is given a fair amount of work.
- Make sure that you meet regularly to discuss project progress, and keep agreed minutes of any meetings.
- Make sure that you have a good project plan, and that you identify any parts of the project which are critical and could hold up the whole project.
- If there are disputes, these should immediately be brought to the attention of the lecturer, who may choose to arbitrate or to bring the matter to the attention of the course coordinator.
- Remember, though, that it is primarily up to the group members themselves to ensure that the project runs smoothly.

### **How do I submit assignments?**

Assignments submitted electronically should be uploaded in the relevant Webcourses module.

Each assignment must have as its first page, the assignment cover sheet, correctly completed. Assignments should not be submitted to porters, other lecturers or secretarial staff, as we cannot take responsibility for their arriving with us on time.

### **What happens if I miss a deadline?**

If you are late with an assignment without valid reason, your assignment will be subject to a penalty. All assignments are marked in accordance with the marking scheme. Late assignments have this mark reduced according to lateness as follows:

Up to one week late:	90% of original mark
One to two weeks late:	80% of original mark
More than two weeks late:	maximum mark available is 40%

If you have genuine grounds for missing a deadline, you should inform your lecturer as soon as possible, and provide whatever written evidence is required.

### **Feedback**

Coursework performance is an important way of judging a student's progress, both for the students themselves and the lecturers. Therefore, coursework projects will be marked and a grade given to the student within a reasonable time following the submission date. As the work forms part of the examined material, it is not possible to return work to students or to provide an exact mark until the work has been seen by the external examiner at the end of the year. However, an approximate grade will be given to the student. Students may also discuss their work in detail with lecturers.

### **Plagiarism**

Plagiarism (i.e. copying coursework from other students or other sources) is not acceptable under any circumstances. Students found guilty of plagiarism may face **serious disciplinary action** from the college. Students suspected of plagiarism may be subjected to a *viva voce* examination at any time, as permitted by the general assessment regulations of the DIT.

Any assignment is expected to be your own work. Any form of copying, or unauthorised use of material, is forbidden. Such actions give you an unfair advantage at the expense of your classmates, and will be dealt with severely. Examples of plagiarism include:

- Direct “lifting” of material from textbooks, the internet or other sources and presenting it as your own.
- Copying computer programs, databases, html etc. from other students, or from other sources such as books etc.

Remember, lecturers will be experienced enough to recognise examples of code, essays etc. which have been plagiarised.



Any material which is taken from another source must be referenced with a footnote or endnote, which cites the publication, date and author. Any text which is quoted verbatim should be placed within quotes and referenced. It is totally unacceptable to “lift” material from books, the web, the work of other students without due acknowledgement.

If you are writing an essay-type assignment, or doing a large scale project, it is of course acceptable to incorporate relevant examples of journal papers, code, etc. provided it is fully referenced. A good test would be to ask yourself the question “If this part of the work is not mine, is this made clear, and is the source of the work clearly mentioned?”

Note: Working together on assignments is a useful learning exercise and may be encouraged by lecturers for certain kinds of work. The above note regarding plagiarism is not intended to in any way discourage collaboration. However, where assignments are graded individually, it is essential that any work handed up can be clearly identified as the student’s own effort.

## Guidance to Students

You should be aware that information will be presented to you in a number of ways. These include:

- Lecture notes written on by the lecturer on the board/projector
- Things said by the lecturer
- Handouts provided by the lecturer
- Course textbooks
- References to other reading (books, journals, magazines, websites etc)

Even with all these sources of information, the lecture is still a very important learning forum – it is here where you learn what the lecturer wants you to know, and what specific areas of the subject you should concentrate on. This is why you should always attend lectures and take proper notes during lectures.

These courses are not designed as distance learning courses and it is assumed that you will attend lectures and take notes as a matter of course. If you are unable to attend lectures, you should make sure to obtain a copy of the notes

### Tips and Tactics for Note Taking

1. Use a large loose-leaf binder and write only on one side
2. Write in short, telegraphic sentences
3. Use modified printing style (clear letters, not scribbles)
4. Use lecturer's words
5. Use your own words when summarising notes
6. Identify your own thought notes (what's mine, what's the lecturer's)
7. Strive to detect main headings
8. Don't doodle or sit near disinterested friends (bad for concentration)
9. If the lecture is too fast, capture fragments, leave spaces and put it all together later
10. Pay close attention to end of lecture - some lecturers cover a lot of material in the last 5-10 minutes
11. Don't give up if the lecturer is too fast
12. After each lecture remain seated and fill in any gaps in your notes



13. Every evening before you settle down to study, pick up some notes and recite them aloud (when possible). Short, fast and frequent reviews stick in your brain.





## Quality Assurance & Programme Management

Under the DIT Quality Assurance Procedures\*, every programme is overseen by several boards and committees. The most important of these are:

*College Board:* It is responsible for implementing the academic functions, including the quality assurance and enhancement procedures in a College.

*Programme Committee:* Made up of key staff, plus a student representative, and is obliged to meet at least once per semester. Handles key issues in the running and development of the course.

Chair Person Dr. Niall Holmes

Prof. Aidan Duffy

Dr. Martin Rogers

Ms. Dervilla Niall

Mr. Liam McCarton

Dr. Ahmed Nasr

Ms. Caitriona Quinn

Ms. Una Beagon

Mr. John Turner

Student Representative – Full-time

Student Representative – Part-time

*Programme Team:* All teaching staff on the course. Students are not on this body.

*Programme Coordinator:* In charge of the running and development of the course. Usually the chairperson of the course committee

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\* These procedures, along with the relevant forms, are described in the DIT Quality Enhancement Document, which is available on the DIT website.



*Year Tutor:* This staff member is the primary contact point between the staff and students, and is usually a member of staff lecturing on the course. Any issues which the class or individuals have in relation to the course should first be brought to the attention of the Year Tutor.

*Student Representative:* Every class should elect a student representative. Communication between staff and students is considerably easier once there is a known contact point for each body (i.e. Year Tutor and Class Representative). Also, under the quality assurance procedures, a student representative must sit on the course committee. It is usual that this student representative is the elected class rep.

*Internal examiners:* Are normally full-time or part-time members of academic lecturing staff. They are nominated by the relevant Head(s) of School and formally appointed each year by the College Board on behalf of Academic Council. The detailed responsibilities of an internal examiner are set out in the [General Assessment Regulations](#) of the Institute

*External examiners:* Are always employed in respect of the final assessments of a programme leading to an award of the Institute, in order to provide an annual objective peer judgement on the standards achieved at the completion of the programme. The detailed responsibilities of an external examiner are set out in the [General Assessment Regulations](#) of the Institute

## **Feedback**

If students have issues, they should feel free to approach lecturers or year tutors. If the class as a whole has an issue, they should, via the class representative, approach the lecturer concerned, the year tutor or the programme coordinator. It is important in such cases that the class representative speaks for the class as a whole. Students will be asked, towards the end of the year, to complete student survey questionnaires (Q6 forms) for each subject they study.

## The Thesis

As part of your Masters Programme, you are required to write a thesis on a topic of your choice. The topic must be approved in advance by a member of academic staff appointed to supervise you.

Students will normally undertake the project immediately after the January examinations. Your supervisor will appoint another School academic member to overlook the project periodically forming the project committee.

After the thesis is submitted, it will be defended to an interview panel. The thesis will be deemed successful when both aspects (written and oral) meet the minimum standard (>50%). Once approved, a copy is kept on file in the College Library. Thesis supervision will be minimal during the summer months so students are encouraged to have any experimental work substantially complete by June leaving the remaining time for writing up.

### Nature of the Thesis

The thesis should aim to be a contribution to existing knowledge and not merely an uncritical compilation of previously published facts or interpretations. Ideally, the thesis should be of such quality so a conference (minimum) or journal paper published from the findings. The thesis topic should be defined in consultation with the supervisor and formally approved by the project committee, as specified above.

Any accepted method of scholarly inquiry may be used, but the thesis should be prepared to explain why the proposed method is suitable to the topic. The results should be suitably analysed with the appropriate rigour for a postgraduate award using coherent scholarly prose.

### Schedules

- Thesis proposal: End of January
- Interim report: End of April
- Progress presentation: Mid-June



Students should plan their work so writing can begin in the summer months. Please be aware that the writing process may take much longer than originally anticipated.

It is necessary to allow your supervisor sufficient time to read the thesis and incorporate any suggestions and additions recommended.

A draft schedule for submitting the thesis is given below:

- Preliminary draft submitted: Early September
- Supervisor comments: Late September
- Final draft: Mid-October
- Thesis defence: Late October

Only after all aspects have been successful will final approval be given.

### **Thesis Guidelines**

The thesis is a story which progresses in a logical fashion. Information is introduced in a sequence which allows the reader to understand what you are communicating as you progress. A good framework is as follows:

#### Motivation

This explains why the topic you have chosen is worthy of research. What is the engineering, societal, technical relevance of the subject matter?

Your motivation then leads on to your Aim and Objectives. So if the motivation is that concrete is failing in maritime environments due to high salt contents, your aim might be to test the durability of different concrete mixes in a high salt environment. Objectives are usually three-to-five questions you need to answer to achieve your aim. In this case they may be: identify suitable mix designs from literature; design a suitable experimental set-up; and identify a system for quantifying damage.



### Literature Review

This should be carefully planned. It does not involve aimless reading in the area which could go on forever. A fundamental objective of the review is to get up to speed with the current state of knowledge in your research area although some general reading is required. Ask yourself – what information do I need to design a good methodology and to discuss my results sensibly. Further reading may then involve a review of the particular method you decide to use for your project.

### Methodology

This describes how you are going to do your analysis. Remember that the methodology does not (normally) include any results or analysis. It is the HOW section. It relates back to the literature review. This is all done in detail, with supporting mathematical formulae (where appropriate), step-by-step so that someone else can understand and replicate your work.

### Results and Discussion

This follows the broad structure of your methodology section.

### Conclusions

These relate back to your objectives.

### References

This section is very important. It must contain references to relevant, up-to-date, peer-reviewed research (usually journals). Other material can be included (government reports, reports from credible institutions, data sources, standards, legal documents etc.), but a substantial number of peer-reviewed articles must be present. Remember to reference completely and correctly using the Harvard system.

### **Format of the Final Thesis**

Two hardbound copies must be submitted to your supervisor once the thesis has been passed by the supervisor and Board of Examiners including the title of the project on the front outer cover, your name, qualification of the degree and year of submission.



The final size when bound must not exceed 320 x 240 mm. All copies must include a statement that the work carried out was the student's own and has not been submitted as part of a degree in this or any other university.

### **Marking**

The marks for the dissertation are awarded on the following basis:

- 1st Interim Report: 5%
- 2nd Interim Report & Presentation: 10%
  
- Originality and innovation of work undertaken: 25%
- Understanding and difficulty: 25%
- Conclusions and contribution to knowledge: 25%
  
- 2nd Presentation: 10%



## Useful DIT Web Addresses

Please note that a new web resource page is being created this year for this course. You will be advised when this page is ready for use and provided with appropriate passwords. The following are some generally useful addresses on the DIT web system:

### Home Page

<http://www.dit.ie/>

### Student Homepage (Campus Live)

<http://www.dit.ie/campuslife>

See this page for links to:

- Academic calendar
- Student Regulations
- Student Computer Usage Regulations
- General Assessment Regulations
- Student Services, inc. counselling etc.
- Student e-mail services

### Student counselling service:

<http://www.dit.ie/counselling>

## Student Clubs & Societies

Within the Institute there are over 40 vibrant sports clubs that facilitate all levels of abilities from the leisure seeking to the competition orientated. Over recent years the Sport and Recreation Service has worked hard to develop a comprehensive sport and recreation programme which offers a mixture of outdoor and indoor, competitive and non-competitive recreational activities for beginners through to elite athletes.

One of the main goals of the Sport & Recreation Team is to encourage those students who are not competitively driven to participate in some form of team-based activity for purely fun and have developed a comprehensive sports programme which offers a mixture of competitive and non-competitive recreational activities for beginners through to elite athletes so GET Active!!

### List of DIT Clubs

Archery	Ladies GAA	Rowing
Athletics	Golf	Rugby
Badminton	Handball	Sailing
Basketball	Hockey	Ski
Boxing	Hurling	<u>Soccer men</u>
Camogie	Judo	<u>Soccer ladies</u>
Canoe	Karate/Kempo	SubAqua
<u>Caving</u>	Karate/Shotokan	Surf
Cricket	Karate/Wada Ryu	Swimming & Waterpolo
Cycling	Karting	Table Tennis
Equestrian	Mountaineering	<u>TaeKwon Do</u>
<u>Gaelic Football</u>	Pool & Snooker	Ultimate Frisbee





## **Library and Information Services**

Each of the main DIT centres has a site library; the library service is coordinated by the Library Central Services Unit in DIT Rathmines Road. Readers may avail of the services in any, or all, of the site libraries. Total collections across the DIT presently comprise more than 250,000 volumes and 20,000 journal titles in electronic and hard-copy formats.

All the libraries share a fully integrated library management system called Millennium, readers may query the library database or use the electronic resources (e-journals, databases, full-text data sources, exam papers and internet links) through the Web Opac (library catalogue) in any site library, or across the wider DIT campus; and from anywhere outside DIT with their ID number and PIN.

Readers may manage their accounts, access the institute's VLE module WebCT, contact library staff and sites, recommend items for purchase, make helpful suggestions and partake in web surveys through the Web Opac. Wireless access to library resources is available across most sites.

Significant engineering collections are housed in both the Bolton Street and Kevin Street libraries, and collections of computer literature are in all the site libraries. DIT Bolton Street Library has 420 reader places and contains approximately 35,000 items and receives 500 current journals. It opens sixty-three hours per week. Our holdings contain a wide range of material pertaining to engineering, computing, electronics, and mathematics and control systems.

### Electronic Information and Information Resources

Electronic information resources in Bolton Street Library are accessed via the Web. A wide range of subject specific resources are grouped as subject gateways on the Web Opac and linked to the DIT homepage. On offer, grouped under both Computer Science and Engineering are databases, electronic resources, internet search engines, gateways, directories and the catalogues of other academic institutions.

Databases, electronic journals and other commercial electronic information resources, many providing full-text documentation are provided to support learning and teaching in our core disciplines. The library service currently provides over seventy electronic information services via



the Web. A selection of services available includes IEEE Explore providing full text access to the world's highest quality technical literature in computer science, Ei Village the largest multi-disciplinary engineering database, Inspec, ScienceDirect, MathSciNet, Applications of New Technologies in Engineering, Applied Science and Technology Index and Web of Science.

### Equipment

40 PCs, networked black/white and colour printing, black/white and colour photocopying (6 photocopiers and 2 printers), 1 microfiche/film reader-printer, and 3 scanners are on the library floor for use by readers.

### Other

Bibliographic, abstracting and indexing publications – Current Papers in Computers and Control and publications for tracing theses are provided.

### Research

Inter-library-loan services, document supply and access to other libraries can be arranged through the library. DIT participates in the ALCID co-operative access scheme, permitting postgraduate degree students access without formality to the libraries of other Irish academic institutions on production of their card. Ad hoc help and assistance, and more formal sessions on the resources available and their profitable use are scheduled.