MSc Data and Computational Science Orientation

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1. Jargon

- By "structures" we mean in UCD the list of core and option modules to be taken by students in their particular programme of study. In the case, the programme of study is the MSc in Data and Computational Science.
- "Module Coodinator" means the person responsible for the design, delivery, and assessment of a particular module. In most cases, the module coordinator and the lecturer will be the same person.
- "Programme Director" means the person with overall responsibility for the content of a particular programme of study.

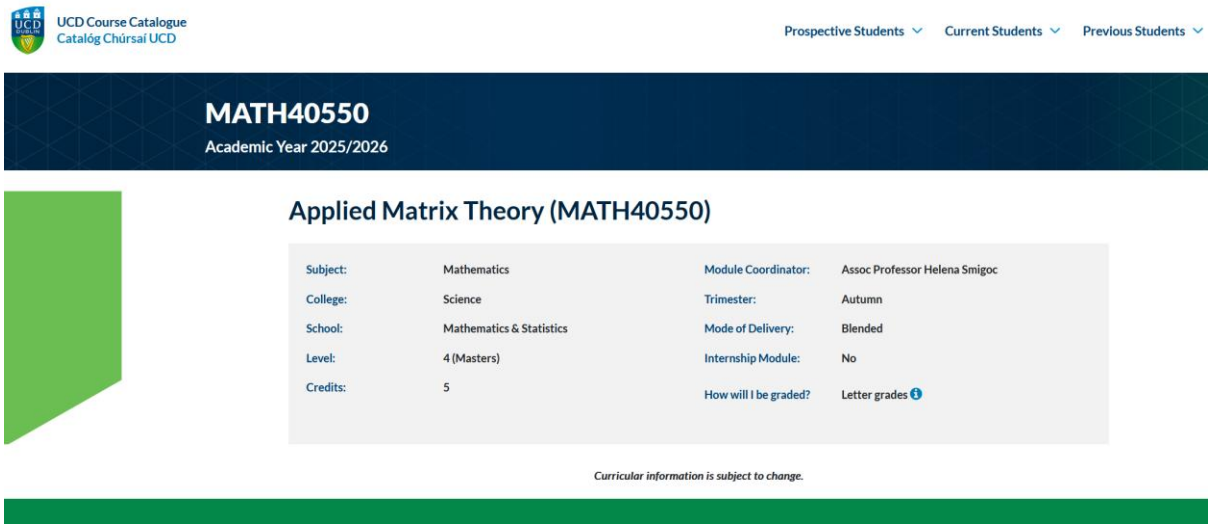
2. Structures

The structures for the MSc programme in Data and Computational Science are outlined as follows.

There are 9 modules (45 credits) which are core for the programme and must be taken by all students. An additional 15 credits must be selected from the list of option modules. These 60 credits will cover the first two trimesters. For the third (summer) trimester there are two streams, described below.

Each module has an online **module descriptor** which can be found by web search. The module descriptor gives information about the module content, mode of assessment, and module coordinator (who is usually the lecturer). **The module coordinator is the main contact point for any queries you may have about a module.**

For example, for MATH40550, the page looks like this (next page):



Core Modules – Take 45 Credits of Core Modules

Trimester	Module ID	Title	Credits
Autumn	MATH40550	Applied Matrix Theory	5.00
Autumn	STAT20230	Modern Regression Analysis	5.00
Autumn	STAT30340	Data Programming with R (BLD)	5.00
Autumn	STAT40800	Data Prog with Python (online)	5.00
Autumn	STAT41040	Principles of Prob & Stats	5.00
Spring	ACM40990	Optimisation in ML	5.00
Spring	ACM41000	Uncertainty Quantification	5.00
Spring	STAT40150	Multivariate Analysis	5.00
Spring	STAT40850	Bayesian Analysis (online)	5.00

Option Modules in Autumn / Spring – Take 15 Credits of Option Modules in Autumn and Spring

Trimester	Module ID	Title	Credits
A)3OF: (Option modules) **Students must take 15 credits**			
Autumn	ACM40290	Numerical Algorithms	5.00
Autumn	ACM40660	Scientific Programming (ICHEC)	5.00
Autumn	STAT40400	Monte Carlo Inference	5.00
Spring	ACM40640	High Performance Comp. (ICHEC)	5.00
Spring	STAT30250	Advanced Predictive Analytics	5.00
Spring	STAT30270	Statistical Machine Lrng	5.00
Spring	STAT41120	Machine Learning and AI	5.00

Summer Programme – Stream 1

A research stream, consisting of a research project with thesis. This is best suited for students interested in pursuing further studies (i.e. a PhD). There may be limited capacity in this stream.

B)1OF: (Stream 1 Core) **Students complete a dissertation under academic supervision**			
Summer	ACM40910	Research Project II	30.00

Initially, students will not have the option to register for Stream 1. During the autumn trimester, any interested students will be invited to apply to undertake Stream 1. Stream 1 consists of a full-time research project under the supervision of a member of academic staff. The research project is intensive, and research students will be expected to work full time on their project for the duration of the summer trimester (late May – end of August). The project will be assessed on the basis of a final written thesis, among other assessment elements. The research projects must be in an area where a suitable supervisor is available, and consequently, there may be a limit on the number of positions available in the research project stream. An indicative list of projects with suitable supervisors will be made available in advance of the application deadline. Students interested in taking the research stream must apply for consideration. The application will consist of a brief (no more than one page) statement of interest, which should be submitted to the module coordinator for ACM40910 during the autumn trimester. Applications will be reviewed by a committee consisting of academic staff, and will be assessed on the basis of first semester grades and the student's suitability for one of the available research projects. Students will be informed of the outcome of their application by the start of the spring trimester and the School of Mathematics and Statistics office will subsequently register those who are selected to the research project module.

Summer Programme – Stream 2

A combination of student internship, mini-project, and a choice of taught modules, with a flexible timetable. This is best suited for students intending a career in industry.

C)30CR: (Required Credits min: 30 max: 30)(Stream 2 modules) Students on Stream 2 must take any 30 credits of the following option modules			
Summer	ACM40960	Projects in Maths Modelling	15.00
Summer	ACM41060	Internship - Data&Comp Science	15.00
Summer	STAT40810	Stochastic Models (online)	5.00
Summer	STAT40830	Adv Data Prog with R (online)	5.00
Summer	STAT40950	Adv Bayesian Analysis (online)	5.00
Summer	STAT40960	Stat Network Analysis (online)	5.00

Stream 2 includes the option of doing an internship in a company. Students have to self-source the internship, with guidance from the UCD College of Science. There is a dedicated internship manager in the College of Science who will help with this. There will be an **information session** on **30th September 2025** in which the process of finding an internship will be explained to students.

The process for registering for the internship is quite similar to for the dissertation (although these are separate streams). Thus, students will not be able to register themselves for the internship. Instead, once the internship has been approved, registration will be done through the School Office.

- Duration of internship: A minimum duration of eight weeks, full time, over the summer trimester.
- Start date: Beginning of the summer trimester, which for the 2025/2026 academicyear is Monday 18th May 2026.
- Working arrangements: Working full time, while also completing taught modules online. The modules have a flexible timetable, so with an internship duration of eight weeks there is scope to spend a portion of the summer trimester devoted exclusively to the modules.

Module Registration

Students will normally register to modules online through their UCD Connect account. This must be done within the first three weeks of the trimester in which the module is running. In exceptional circumstances (e.g. dropping a module late in the trimester), students must complete the module registration form (available by contacting the office of the School of Mathematics and Statistics) and submit it electronically to the same. Requests to register to a module after week three of the trimester in which it is offered are not guaranteed to be approved and will require consultation with the module coordinator. Requests to register to a module after week six will not be considered.

Changes to Registration

You might have taken the equivalent of one or two of the core modules before – in this case, modules may be substituted. For these purposes, **students are invited to look in the first instance at option modules not already selected.** After that, students should look to other appropriate stage-4 modules in the School of Mathematics and Statistics. Students should discuss these choices with the programme. The final registration change will be carried out by programme administrator in the office of the School of Mathematics and Statistics.

3. Important University policies to note

UCD Leave of Absence Policy (link)

A Leave of Absence (LOA) enables a student to take an approved and specified period of time away from the programme. Students cannot apply for LOA for the first trimester of the programme.

Students must apply for LOA as soon as it becomes necessary, ideally before the start of the requested LOA period. However, it is possible to apply for LOA up until **week eight** of the relevant trimester (check key dates for the deadline dates)

Students can apply for LOA through InfoHub

Recognition of Prior Learning (link)

Students can attain credit for relevant prior learning (if it corresponds to the content/level of particular modules on the programme). This is referred to as RPL. For UCD taught programmes, the RPL credit limit is as follows:

- Not to exceed 60 credits, and
- Not to exceed 1/2 of the overall programme credits.

RPL credits appear on the transcript simply as "prior learning" or words to that effect, and the grades for the prior learning usually do not influence the final GPA (the credit is usually treated as GPA neutral).

An application for RPL should be made **as early as possible** and ideally before commencement of the relevant module/programme. Please contact the School (dataandcomp@ucd.ie) for an RPL application form (please do not apply online).

Please note that for the MSc in Data and Computational Science, RPL is only granted for prior learning on another Master's or PhD programme. Applications for RPL for prior learning in an undergraduate programme will not be entertained.

Extenuating Circumstances (link)

If a student is not able to complete an assignment or attend required exams due to serious, unforeseen circumstances beyond the student's control (e.g. serious illness, family bereavement, etc.), the student should contact dataandcomp@ucd.ie or the Module Coordinator as soon as possible for further guidance and support. Applications for extenuating circumstances are made online via UCDConnect and are subject to specific deadlines for in-trimester assignments and end-of-trimester exams.

It is important that you are familiar with the Student Guide to Extenuating Circumstances before applying.

Withdrawal Policy (link)

If a student decides no longer to continue with the MSc, the student must complete and submit an official Withdrawal Form**.** The form is accessed via UCDConnect.

Students in this situation should read the Policy and check the fee deadlines to become familiar with all the implications of this request. Students can also check the key dates page for the withdrawal deadline for each trimester and also, to see the fee implications for withdrawal. For example, September start students should withdraw by the Autumn deadline to avoid being liable for fees for the academic year.

Plagiarism policy (link)

Academic integrity is a core value in UCD. Suspected plagiarism will always be investigated. Students found guilty of committing plagiarism will be sanctioned. According to UCD, plagiarism is the inclusion, in any form of assessment, of material without due acknowledgement of its original source. Plagiarism is a form of academic dishonesty and may include, but is not limited to, the following:

- Presenting in your own name, work authored by a third party, such as other students, friends or family (with or without permission), or work purchased through internet services. The original source may be in written form or in any other media (for example, audio or video);
- Presenting ideas, theories, concepts, methodologies or data from the work of another without due acknowledgement.
- Presenting text, digital work (e.g. computer code or programs), music, video recordings or images copied with only minor changes from sources such as the internet, books, journals or any other media, without due acknowledgement.
- Paraphrasing (i.e., putting a passage or idea from another source into your own words), without due acknowledgement of the source;
- Failing to include appropriate citation of all original sources;
- Representing collaborative work as solely your own;
- Presenting work for an assignment which has also been submitted (in part or whole) for another assignment at UCD or another institution (i.e. self-plagiarism).

Tips on how to avoid plagiarism can be found here. Depending on the module, plagiarism can involve the use of **Large Language Models**. If in any doubt, please ask the module coordinator (lecturer). The UCD Plagiarism policy and the School of Mathematics and Statistics Plagiarism Protocol will be circulated to students.

4. General guidelines

Important dates

The UCD Academic Calendar includes the key dates to keep in mind for the academic year. All lectures will be delivered during the teaching portion of each trimester. Results will be released following the timeline in the Assessment Key Dates calendar. Students who require confirmation that they have finished their MSc in advance of receiving their final results may request a letter confirming their status from the School of Mathematics and Statistics office once they have completed all modules and the office has received confirmation that they have passed all components of the MSc.

Queries

Queries in regards to any specific module (e.g. requesting feedback on assessment or queries in relation to difficulties with the module) should be directed to the module coordinator. The module coordinator for each module is listed on the module descriptor page, which is accessible by clicking on the module code in the above tables. Contact details for all staff members are available from the UCD Directory.

Key people

Administrative queries (e.g. module registration) should be directed to the School of Mathematics and Statistics administrative staff. They may be contacted by email at the dedicated address: dataandcomp@ucd.ie.

Other academic queries in relation to the programme may be directed to the factuly members overseeing the programnme:

- Programme Director, Autumn (2025) Associate Professor Barry Wardell
- Programme Director, Spring / Summer (2026) Associate Professor Lennon Ó Náraigh
- Deputy Programme Director: Dr Wagner Barreto-Souza