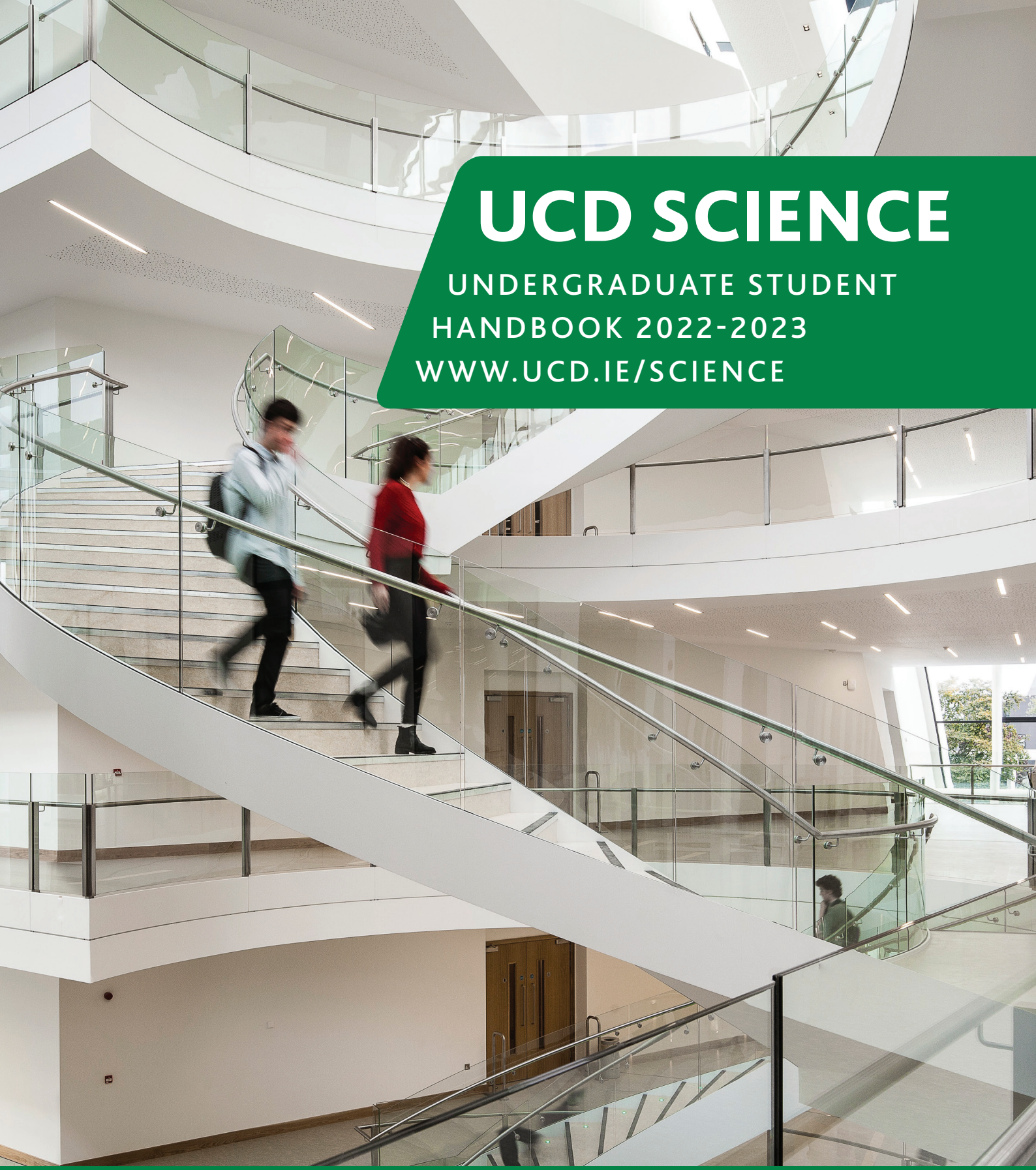

UCD SCIENCE

UNDERGRADUATE STUDENT HANDBOOK 2022-2023

WWW.UCD.IE/SCIENCE

DN200 Science

University College Dublin
Ireland's Global University

Contents

WELCOME TO UNIVERSITY LIFE!

The UCD Science Office extends a warm welcome to all our Science students for the academic year 2022/2023. As a UCD Science student you are part of the largest University in Ireland and we hope that your time here is an enjoyable and rewarding one, both in academic achievement and personal development.

While the first year at University offers many exciting opportunities, some students may have difficulties in adapting to a different form of education and new experiences. It is normal to feel overwhelmed when starting in Stage 1, trying to find your way around, understanding all the policies and regulations, following a complex timetable, integrating into the University system and for some of you it will be your first experience of living away from home. Remember that you are not the only one feeling this way, many of your peers will be feeling exactly the same. Don't panic, all the information you receive during the Advisory Sessions will be available to you to refer to on our website at: Science Orientation Information.

The Associate Dean of Science and the staff in the Science Office are always available to assist students with any problems they encounter, whether academic or personal. There is also a Student Adviser along with many other support staff in Science whose function is to ensure that you settle into University life as quickly and easily as possible.

We believe in the power of education to transform lives and we will do everything we can to ensure you are well supported and informed. We recognise that you are an individual with personal goals. Our team in the Science Office will do our best to empower and assist you to achieve your goals. We aim to provide you with a high-quality service, giving you the best student experience possible.

It is important to remember, the value of your University experience depends upon the effort and commitment that you make. You are here to be educated as a professional in whatever scientific discipline you choose to study. Your lecturers in Science will direct your academic programme, but it is up to you to make the most of the variety of opportunities that University will present. We wish you every success in your endeavours.

Like many large organisations, UCD can seem to have a language of its own and you may find that some of the terminology used in the literature and online is new to you. **Please view the Jargon Buster** on the Jargon Buster link
which will help explain some of the more frequently used words:

The Associate Dean of Science and staff in the Science Office are always available to offer advice and help to students whether it is an academic problem, a medical problem or in fact any problem at all!

Remember:

Don't hesitate to contact us – we're here to help!

UCD STUDENT CHARTER

University College Dublin (UCD) is a community of students and staff where scholarship and personal development are fostered, leadership cultivated, innovation encouraged and social conscience developed. Our University provides a very broad and exciting range of opportunities for students from all backgrounds, and staff and students have a responsibility to engage, participate and respect the services and facilities provided. Central to the aims and values of our University is respect and fairness, and every member of our community is required to uphold these values in all dealings with each other.

The UCD Student Charter summarises our aspirations and expectations for all members of our University community. It sets out the roles and responsibilities of the various groups within our University and outlines what students can expect from their University and what the University can expect from its student members.

In order to build and maintain a positive and encouraging academic environment, UCD has regulations, codes and policies. Students and staff should be familiar with and abide by these. View policies and regulations on the following link: https://www.ucd.ie/governance/

In particular, students must be familiar with the UCD Student Code, which sets out the procedures for managing breaches of good behaviour. The UCD Student Charter should be read in conjunction with these regulations, codes and policies. If you have any queries about the Charter please contact studentcharter@ucd.ie.

WHY NOT VOLUNTEER TO HELP A COMMUNITY ORGANISATION?

Volunteering provides an opportunity for you to contribute to your local community, to get some real-life experience and to develop and demonstrate your skills, knowledge and adaptability. It is a pathway to personal and professional development and employers often ask about volunteering at interview. Volunteering is also a great way to get to know more people from different backgrounds. Volunteering brings a valuable opportunity to experience something totally different and maybe even to learn something new about yourself.

If you are interested, view opportunities on the following links:
UCD in the community
UCD Student Volunteer

UCD ADVANTAGE AWARD

The UCD Advantage Award is your chance to get recognition from UCD for skills, knowledge and experience that you have gained through participation in co-curricular activity, on and off campus. Whether you are part of a UCD Society or UCD Sport volunteer your time with a charity in UCD in the community or have done a Summer internship, UCD wants to acknowledge your contribution and development. Participating in the Awards encourages you to expand the breadth of your co-curricular activity, to get involved in things that you may not have considered previously. This opens up a world of opportunity in terms of meeting new people, experiencing new situations and developing a whole host of new skills. More detailed information is available on the following Careers Network Link.

WELCOME TO UCD GUIDES

The UCD Student Guide provides information on university services and resources to help you get the most out of your university experience.

SCIENCE OFFICE STAFF

1st Floor, Room E1.09, O'Brien Centre for Science

T: (01) 716 2375/2355/2365/2684/2120

Annette Forde
E: annette.forde@ucd.ie
Paula Fogarty
E: paula.fogarty@ucd.ie
Louise Powderly
E: louise.powderly@ucd.ie
Paolo Virtuani
E: paolo.virtuani@ucd.ie
Jeilbonn (Jb) Kenny
E: Jb.Mangaya-ay@ucd.ie

Associate Dean of Science
E: asdean.science@ucd.ie

Ms Carla Naltchayan, Internship Manager
(Maternity Leave)
Ms Mairead Mulvey, Room E1.09A
Programme Internship Manager
E: mairead.mulvey@ucd.ie T: (01) 716 2541

2nd Floor, Room E2.09, O'Brien Centre for Science

College Principal & Dean of Science
E: principal.science@ucd.ie
Carole Doyle
E: carole.doyle@ucd.ie **T:** (01) 716 2626

Aiveen McPartlin
E: aiveen.mcpartlin@ucd.ie
Jamie Wells,
Senior Programme Manager (International)
E: jamie.wells@ucd.ie T: (01) 716 2310
Averil Clarke
Administration Support Team
(International)
E: averil.clarke@ucd.ie

Ms Kirsten Southard, Programme Manager
(BSc Sustainability)
E: kirsten.southard@ucd.ie

Ms Rachel McEvoy, Room E1.15
(Maternity Leave)
Denise Ní Dhuibhir
Programme Internship Manager
T: (01) 716 2270

Dr Orla Donoghue
Science Outreach Manager
E: orla.donoghue@ucd.ie T: (01) 716 2311
Gary Dunne
Marketing and Student Recruitment Officer,
E: gary.dunne@ucd.ie T: (01) 716 2637

Whether Science Office staff are working on campus or operating a hybrid approach, **we are here to help and support you**. You should submit routine queries on the Science Connector.

If you need to make an appointment to speak with a member of staff or make an appointment for a Zoom or in-person meeting, please refer to the College of Science contacts page,

Science Student Advisers:
Dani Findley, Room E.044, Ground Floor, O'Brien Centre for Science.
E: dani.findley@ucd.ie T: (01) 716 2271
Megan Kuster, Room E0.44, Ground Floor, O'Brien Centre for Science.
E: megan.kuster@ucd.ie

STAFF WITH SPECIAL RESPONSIBILITY FOR STAGE 1 STUDENTS

A member of the academic staff in each School in the Programme has been specifically designated to handle queries and problems that arise for new students.

Biology and Environmental Science:
Dr Gavin Stewart, Room 2.55 in Science West
Email: gavin.stewart@ucd.ie

Biomolecular & Biomedical Science:
Dr Derek Costello, Room S059, Conway Institute T: 716 6775 Email: derek.costello@ucd.ie

Chemistry:
Associate Professor Michael Casey, Room S3.47, Science South
T: 716 2853 E-mail: mike.casey@ucd.ie

Computer Science:
Associate Professor Lorraine McGinty,
Room A1.08, 1st Floor,
Computer Science & Informatics Building.
T: 716 2856 Email: lorraine.mcginty@ucd.ie

Earth Sciences:
Dr Conrad Childs,
E: conrad.childs@ucd.ie
T: 716 2608

Applied and Computational Mathematics:
Dr Michael Mackey, Room 104b, Science North. T: 716 2587 E-mail: mackey@ucd.ie

Mathematics:
Dr Michael Mackey, Room 104b, Science North. T: 716 2587 E-mail:
mackey@maths.ucd.ie

Physics:
Prof. Antonio Martin-Carrillo (in cc)
antonio.martin-carrillo@ucd.ie or tel: 01-7162218.

Statistics:
Dr Michael Mackey, Room 104b, Science North.
T: 716 2587
Email: mackey@maths.ucd.ie

Actuarial Science
Dr Adrian O Hagan, Room S0.12, Science South. T:716 2428
E-mail:adrian.ohagan@ucd.ie

SCIENCE SOCIETY

The UCD Science Society is made up of a bunch of fun loving, hardworking and slightly insane Science students who spend most of the day thinking about how to make your college life more entertaining, and coming up with great ways of raising money for CHF formerly known as CMRF, Our Lady's Children's Hospital, Crumlin.
UCD SciSoc is now one of UCD's biggest societies and is responsible for a range of events such as the annual Science Day festival, the Science Ball and INSC,which was hosted last year by none other than UCD physics alum Dara Ó Briain, along with many many more!
Each year they bring great events, big and small, throughout the academic terms. To top it off, all proceeds from the events go **DIRECTLY** to charity, so there's always that feel-good bonus too! Interested? Get involved! Whether you're a Science student, science enthusiast, or just want to take part in some fantastic events, you can get in contact with the Science Society at science.society@ucd.ie or on Instagram and facebook at @ucdscisoc

SERVICES AVAILABLE TO HELP YOU

Computer Science Support Centre

The Computer Science Support Centre is a free service offering extra help to any students taking Computer Science modules, who are worried or having problems with computer programming. This is in addition to the normal tutorials. The Centre is staffed by a team of helpful senior tutors and is located on the first floor of the School of Computer Science and Informatics. The Centre provides a friendly, relaxed environment where students can drop-in to discuss their difficulties and receive one-to-one support throughout the year. Further details are available at the Computer Science Support Centre Link.

Mathematics Support Centre, James Joyce Library Building

Mathematics and Statistics are relevant to all areas of Science. The Mathematics Support Centre is a free drop-in service offering extra help to any students who are worried about their Mathematics background. This is in addition to the normal tutorials. The Centre is staffed by a team of helpful senior tutors who provide a friendly, relaxed environment where students can drop-in to discuss their difficulties and receive one-to-one support throughout the year. If you enter the library the MSC is the glass room with the orange and green circles just to the left opposite the entrance. Further details are available Mathematics Support Centre Link or by email: msc@ucd.ie

PEER MENTORING

Peer Mentors are Science students in Stage 2 or 3 who very generously give of their time to help welcome and support our Stage 1 students. The continued success of our Peer Mentoring programme is largely thanks to the energy, enthusiasm and commitment of our Peer Mentors every year. If you feel you would like to be a Peer Mentor please go to your SISweb account, programme services and online peer mentor applications and fill in the form. You will hear more about the recruitment of Peer Mentors in the Spring Trimester, but please feel free to give us your details any time before then.

SOME USEFUL ADVICE

Part-time employment: an advisory note

The experience of staff and of other students in recent years suggests that part-time employment exceeding 10 hours per week during term, can interfere with your attendance at lectures, tutorials or laboratory classes and can adversely affect your academic performance. You are strongly advised not to undertake any part-time employment during the study week and if possible, you should not work at all in the period immediately before exams. If financial circumstances oblige you to take a part-time job that requires you to work for significant numbers of hours per week, you should seek advice from a Student Adviser or the Office of the Vice-President for Students.

Continuous Assessment

In most modules, up to 50% of the marks available are awarded as part of the continuous assessment taken during the modules *(you can view details of how a module will be assessed in the Module Descriptor available at: Course Search).* Our experience over the years is clear: students who engage with lectures, tutorials and laboratory classes and complete the in-course assignments achieve much higher grades in their modules; **students who have a poor record of attendance commonly fail their modules.**

Lectures

Lectures commence on the hour and each is of 50 minutes duration.

Practicals

Practical (or laboratory) classes are of two or three-hours duration and involve carrying out selected experiments, examining scientific material and getting hands-on experience of practical subjects.

N.B*. Check your personal timetable online for information on practicals.*

Tutorials

Tutorials are of particular benefit to students. Scientific discussion in a small group setting is an excellent method of instruction, encouraging questions and confirming understanding. It is vital that any problems with your subjects be discussed with the lecturers/tutors/demonstrators as soon as the problem arises. Do not wait until it is too late to seek help.

N.B. *Check your personal timetable online for information on tutorials.*

Deal with problems as they occur

If you don't understand – PLEASE ASK!

Discipline

Good behaviour, especially in lectures, practicals and tutorials, is essential. This is especially true in Science where classes may be large, safety may be an issue and where there is likely to be a mix of students, some with a basic grasp of the subject and others studying it for the first time. Mobile phones must be switched off during lectures, practicals and tutorials. Familiarise yourself with the 'Student Code' This can be viewed at Student Conduct Link.

Academic Integrity

Integrity is all about being honest and having good moral values. Academic integrity is simply integrity in an academic setting, i.e. in University. When you are a student in UCD, we encourage and expect that you will be honest and have high standards. This means avoiding behaviours that are considered dishonest. Most people know that it is dishonest to cheat in exams, and most people don't cheat; but there are other, much less obvious ways of being dishonest, and you may not even realise it. When you are writing your assignments, you will need to make sure that you avoid plagiarism.

What is Plagiarism?

Plagiarism is a **serious academic offence**. While plagiarism may be easy to commit unintentionally, it is defined by the act not the intention. All students are responsible for being familiar with the University's policy statement on plagiarism and are encouraged, if in doubt, to seek guidance from an academic member of staff. The University encourages students to adopt good academic practice by maintaining academic integrity in the presentation of all academic work. Refer to the *Avoid Plagiarism* information on UCD Library's website.

Printing, Copying, Scanning

There are printing facilities for students available in a number of buildings on campus. Please refer to the UCD Library website for further details.

INFORMATION ON INTERNSHIP PLACEMENTS IN STAGE 3/STAGE 4

UCD Science students have the opportunity to complete internships. The Science Programme offers a number of modules that enable internships to contribute credits towards your degree, as follows:

SCI30080 Professional Placement - Science (5 credits) - available in a number of degree programmes, information available on the College of Science Internship website. The internship takes place over 8-12 weeks in the summer between Stages 3 and 4. The module is Grade Point Neutral (i.e. does not influence GPA); and the credits contribute to Stage 4. The students eligible to register their interest in this module will be Stage 3 students in 2022-23.

COMP30790 Industry Placement (15 credits, GPA neutral) – This module is an option for Stage 3 Computer Science and Computer Science with Data Science students. The placement starts from mid-March to the end of August.

GEOL30360 Work Placement - Geoscience (5 credits) – equivalent to SCI30080 but is an elective module available only to Geology students. Internship normally takes place over 6-10 weeks in the summer between Stages 3 and 4, but may also be possible during trimester 1 or trimester 2. The module is Grade Point Neutral; the credits contribute to Stage 3.

BMOL40200 Industry Research Project (25 credits) – available in specific biological subjects (Biochemistry and Molecular Biology, Genetics, Microbiology, Pharmacology, Neuroscience). The internship research project runs for 6 months, combining the summer after Stage 3 and the Autumn Trimester of Stage 4. Students complete a research project during internships. Module **is not** Grade Point Neutral; credits contribute to Stage 4.

Special registration arrangements are in place for these modules. For each, it is necessary to register your interest at the beginning of the academic year in which the internship will take place (e.g. for modules that

will take place in the summer after Stage 3, interest must be registered at the beginning of Stage 3). Formal registration will then take place at the beginning of the Stage to which the credits will contribute (e.g. for SCI30080, which will contribute to Stage 4, formal registration will take place at the beginning of Stage 4, after the internship has taken place). See full details on the College of Science Internships website. All internships must be arranged in consultation with the College of Science Internship Managers, email us scienceinternships@ucd.ie.

In order to complete an internship, students will first need to successfully apply for one in a competitive process. As such, we cannot guarantee that everyone who seeks an internship will succeed in gaining one. Students who will be on exchange during Stage 3, should make sure they maintain contact with their Internship Managers while they are away to maximize their chances of successfully securing an internship.

If a student embarks on an internship during the summer between Stages 3 and 4 and fails to progress to Stage 4 or opts to graduate with a 180 credit degree, they will be unable to register for the module in Stage 4; the module would not contribute credits, attract a fee or appear on a transcript. Nevertheless, the experience would be beneficial and could still be listed on a CV. Note that if your chosen degree subject does not include a credit-bearing internship module, but you would nevertheless like to complete an internship, please contact the College of Science Internship Managers (contact details on: Science Office website) and/or your Head of Subject. Please contact the College of Science Internship Managers at email: scienceinternships@ucd.ie.

STUDENT EXCHANGE AND ERASMUS OPPORTUNITIES

In UCD Science **Stage 3 students** have the opportunity to study abroad at an Erasmus or Non-EU Exchange partner university. This provides students with an invaluable opportunity to experience Science in a variety of cultural contexts. Students should have a GPA of 3.0 or above, be eligible to progress to Stage 3 and be Stage 2 complete prior to the commencement of the Exchange.

Applications for Exchange and Erasmus are made in the academic year prior to going abroad. In most cases this means students who have entered Stage 2 in September 2022 would apply to go on Exchange or Erasmus for a trimester or academic year of 2023-2024.

The most important consideration for an Exchange and Erasmus trimester abroad, is ensuring that a potential host institution is an appropriate academic fit for your major and that modules equivalent to those required for your UCD degree can be taken. Therefore, it is essential that the UCD Science Schools approved list of partner institutions are referred to. For information see the following Erasmus and Non-EU exchange Link to see where and when you can go, along with application details.

Note that the credits accumulated during an Exchange are Grade Point Neutral in relation to your UCD GPA and do not contribute to the calculation of your final degree GPA. Students will receive a transcript from the host institution. However, if a student is on Exchange for a full academic year and opts to exit with the 180 credit BSc (General Science) Degree, then the degree GPA will be calculated based on Stage 1 (30%) and Stage 2 (70%) results.

SCIENCE STAGE 1 ACADEMIC ADVISORY MEETINGS

Stage 1 Science Students

Please view your Programme Orientation/advisory meeting timetable for further details view: **www.ucd.ie/newstudents**

Pre-Stage 2 and Pre-Stage 3 Advisory Meetings: (Dates will be confirmed in early 2023).

This is a compulsory meeting for current Stage 1 and Stage 2 students in DN200. The advisory meeting commences with a talk to students. Information relating to Stage 2 and Stage 3 subject areas will be provided.

DATES FOR ACADEMIC SESSION 2022/2023

Autumn Trimester

Teaching Term:	12th-September 2022 – 2nd December 2022
Revision:	3rd December 2022 – 9th December 2022
Examinations:	10th December 2022 – 22nd December 2022

Spring Trimester

Teaching Term:	23rd January 2023 – 10th March 2023
Fieldwork/Study period	13th March 2023 – 26th March 2023
Teaching Term:	27th March 2023 – 28th April 2023
Revision:	29th April 2023 – 5th May 2023
Examinations:	6th May 2023 – 19th May 2023
Easter Sunday:	***9th April 2023***
May Public Holiday:	***1st May 2023***

SCHOOLS AND ASSOCIATED SUBJECTS

SCHOOL NAME	SUBJECTS
Biology and Environmental Science	Cell & Molecular Biology, Environmental Biology, Plant Biology, Zoology, Biology, Mathematics &Education (Biology pathway).
Biomolecular and Biomedical Science	Biochemistry & Molecular Biology, Genetics, Microbiology, Neuroscience, Pharmacology, Biology, Mathematics & Education (Biology pathway).
Chemistry	Chemistry, Chemistry with Biophysical Chemistry, Chemistry with Environmental & Sustainable Chemistry, Medicinal Chemistry & Chemical Biology, Chemistry, Mathematics & Education (Chemistry pathway).
Computer Science	Computer Science, Computer Science with Data Science, Computer Science, Mathematics & Education (Computer Science pathway).
Earth Sciences	Geology
Mathematics and Statistics	Applied & Computational Mathematics, Mathematics, Financial Mathematics, Statistics, Theoretical Physics, Actuarial & Financial Studies, Mathematics & Education – All five pathways.
Medicine	Physiology
Physics	Physics, Physics with Astronomy & Space Science, Theoretical Physics, Physics, Mathematics & Education (Physics pathway).
School of Education	Science, Mathematics & Education (All five pathways).

MODULE CODES AND ASSOCIATED SCHOOLS

Most module codes start with four letters and are associated with a particular School. To help you identify which module belongs to which School please see the list below.

ACM	School of Mathematics & Statistics
AESC	School of Agriculture, Food Science & Veterinary Medicine
ANAT	School of Medicine
BIOC	School of Biomolecular & Biomedical Science
BIOL	School of Biology & Environmental Science
BMOL	School of Biomolecular & Biomedical Science
BOTN	School of Biology & Environmental Science
CELB	School of Biology & Environmental Science
CHEM	School of Chemistry
COMP	School of Computer Science
ENVB	School of Biology & Environmental Science
FOR	School of Agriculture, Food Science & Veterinary Medicine
GENE	School of Biomolecular & Biomedical Science **OR** School of Biology & Environmental Science
GEOL	School of Earth Sciences
HORT	School of Agriculture, Food Science & Veterinary Medicine
MATH	School of Mathematics & Statistics
MDSA	School of Medicine
MEMI	School of Medicine
MICR	School of Biomolecular & Biomedical Science
MST	School of Mathematics & Statistics
NEUR	School of Biomolecular & Biomedical Science
PHAR	School of Biomolecular & Biomedical Science
PHYC	School of Physics
PHYS	School of Medicine
STAT	School of Mathematics & Statistics
ZOOL	School of Biology & Environmental Science

SCHOOL CONTACTS

SCHOOL	ADMINISTRATOR (Undergraduate)	PHONE NUMBER
Biology & Environmental Science	Helen McCarthy	716 2385
Biomolecular & Biomedical Science	Mary O'Brien/ Liz Hannon	716 2768/2769
Chemistry	Deirdre Murphy	716 2425
Computer Science	Giuseppina Sethuraman	716 2483
Earth Sciences	Sarah Procter	716 2331
Mathematics & Statistics	Nuria Garcia Ordiales	716 2560/2562
Medicine	Lisa Bruton	716 6633
Physics	Bairbre Fox	716 2210/2361

Timetable Information

Personalised timetables based on individual students' module selection are available through the Student Web. In SIS you will be able to view your Autumn and Spring Trimester Timetables and your Examination Timetable (when published).

To access SIS:-

- Click on SIS Student Web on the right side of the main UCD home page
- Enter your Student Number/Connect Username and Password
- Login

EMAIL AND INTERNET USAGE

UCD Email Accounts: You should use your UCD email account when communicating with Lecturers and Science Office staff. The Science Office communicates with you by email through your UCD email address.

All students have an obligation to regularly check their UCD email accounts and are bound by notices and information posted to these accounts.

Email Etiquette

Email communications should follow the same standards expected in written business communications.

- Lecturers should be addressed appropriately.
- Student name, student number, stage, class and group must be provided.
- Students must ensure that their reply email address is functional.
- The tone of any communication must be respectful.

Inappropriate Content: You must not present for I.T. Support or in class with inappropriate content on device wallpaper, screensavers, and homepage. Support Staff reserve the right to refuse to support a system with such content on display.

Network Usage: You should adhere to the general guidelines on computer and email usage detailed in the "Acceptable Usage Policy for UCD Computer and Network Systems" This document can be viewed under the Information Technology Acceptable Usage Policy

Brightspace

The Brightspace Virtual Learning Environment (VLE) provides e-learning services to students and staff at UCD.

Brightspace allows lecturers to share module materials, post announcements for students, and run quizzes and surveys. Brightspace also includes a Virtual Classroom facility, discussion forums and various other module tools. Please refer to the Brightspace guide for a quick video tutorial of the Brightspace environment.

You'll find more information about Brightspace at www.ucd.ie/futurevle and remember to check out the "Discover IT @ UCD" module when you first log into Brightspace, your Virtual Learning Environment (VLE). This is designed to help you get started using IT@UCD.

Jargon Buster

You may find that some of the terminology used in the literature and online is new to you and to help you with this you can access our online 'Jargon Buster' on the following Jargon Buster Link.

Structured Electives

A Structured Elective means taking your elective credits in a structured manner over the course of your programme to form a small but coherent block amounting to a minimum of 15 credits.

Note: In order to receive a Structured Elective in a given area you must take the required modules as Elective modules and not as Core or Option modules.

More information can be viewed on the following link: Structured Electives

EXTENUATING CIRCUMSTANCES

If you experience serious unforeseen circumstances which caused you to:

- miss a substantial period of attendance
- significantly affected your ability to study or complete assessments (continuous assessment and/or examinations)

or

- adversely affected your performance in any assessments you have undertaken,

your circumstances will be considered and may, for example, provide the opportunity to complete the impacted modules without academic or financial penalty, at a later date.

Typically, such unforeseen circumstances could include

- Involvement in an accident
- Victim of crime
- An acute illness or serious on-going medical condition
- Ongoing life-threatening illness of a close family member or partner
- Bereavement of a close family member or partner
- Acute or on-going serious personal/emotional circumstances
- Domestic upheaval at the time of the assessment (e.g. fire, burglary, eviction)

Whatever the circumstances affecting you, you should seek advice from the following UCD Support Services in the first instance.:

Student Adviser:

dani.findley@ucd.ie or megan.kuster@ucd.ie T: 01 716 2271

Science Office: Ask Science Link at: www.ucd.ie/askscience

Student's Union: welfare@ucdsu.ie

Short Absences during the Trimester:

There are remediations for short absences that can be implemented quickly during the teaching term if the Module Coordinator is aware of the absence.

An application for short periods of illness and absence is not required.

HOW TO SUBMIT AN APPLICATION FOR EXTENUATING CIRCUMSTANCES:

You can apply for extenuating circumstances online via SISWeb by following the steps below:

- Log into SISWeb
- Click on the *Programme Services* tab
- Select Applications for Extenuating Circumstances
- Start a new application and complete all necessary fields

Assessment during the Trimester: You should submit an application **within 10 working days** of the missed assessment or assignment. Supporting documentation can be uploaded to the online form in SISweb.

For in trimester assessment, this must be **within 10 working days of the missed assessment or deadline. Late applications will be lapsed.**

End of Trimester Exams: The final deadline for submission of the online form and supporting documentation **in relation to end of trimester examinations** is **5 working days** after the end of the relevant examination period.

For any queries in relation to Extenuating Circumstances, please submit your query to the Science Office using the Science Connector Form.

You may feel you would benefit from Temporary Exam Supports, administered by UCD Access & Lifelong Learning, during the exam period. For further information, please refer to the UCD Access and Lifelong Learning website

Supporting Documentation:

Please note that verifiable evidence that supports your application must be submitted to support your application. For detailed information on appropriate supporting documentation please see Page 4 of the Guidance for students on the policy for Extenuating Circumstances at the following: Extenuating Circumstances Policy.

Disability Support Services

Students who require ongoing support and accommodation on the grounds of a verifiable disability are encouraged to register with the UCD Access & Lifelong Learning at their earliest convenience.

Temporary Exam Support is arranged by UCD Access & Lifelong Learning for students sitting official end of trimester exams who require exam supports due to recent injury or illness. For example, a student who has broken their wrist may benefit from the use of a computer or other support to complete their exam.

Foreseen Absence from College

Extenuating Circumstances do not cover events which are foreseen, e.g sporting, social or cultural commitments. Please discuss any absences due to such events with the relevant Module Coordinator. If a medical appointment will result in your absence from an assessment during the trimester, you should discuss this with the relevant Module Coordinator in advance of the assessment date.

POLICY ON LATE SUBMISSION OF COURSE WORK

Coursework must be delivered by hand to the School Office (or other location designated by the School) or submitted electronically via an approved system, at the date and time previously notified to students. Coursework may of course be submitted in advance of the due date. Coursework **should not be**:

- submitted directly to individual members of staff,
- placed directly in staff post-boxes,
- or delivered to or deposited in any location **other than that designated by the School.**

LATE SUBMISSION WITH EXTENUATING CIRCUMSTANCES:

This process gives students the opportunity to explain the reasons why it will not (or has not) been possible to meet the submission deadline for the assessment.

Applications must be made on the appropriate form and, with the appropriate supporting evidence attached, submitted to the School Office. The School will consider the application and inform the applicant as soon as possible. Applications may be made in advance of an assessment submission date but **must be made NO LATER than two weeks following a submission date**.

If the application is approved, there will be a revised submission date for the assessment and no penalty will be applied. The length of time given as an extension will depend on what is provided for in the supporting evidence.

In no circumstances, however, may an extension of more than two weeks be given locally. Where more than two weeks are necessary, the student will be directed to make a formal extenuating circumstances application via the Programme Office.

LATE SUBMISSION WITHOUT EXTENUATING CIRCUMSTANCES:

There may be occasions where a student is late in submitting an assessment without extenuating circumstances or where an application for extenuating circumstances has not been successful. Such an assessment **may be submitted up to 10 working days following the submission date and a grade penalty is applied**, unless a student has sought an extension to the submission deadline without penalty using the relevant form and the module coordinator has approved the application. In all other cases of late submission of coursework, the following penalties shall apply.

Coursework submitted at any time **up to and including 5 working days after the due date will have the grade awarded reduced by one grade point (for example, from B- to C+).**

Coursework submitted **more than five working days but up to and including ten working days after the due date** will have the grade reduced by two grade points (for example, from B- to C).

Where a student finds they have missed a submission deadline, they should be advised that they may use the remainder of the submission window to improve their submission without additional penalty. Coursework **received more than ten working days after the due date will not be accepted** by the School. Please see the Late Submission of Coursework Policy for further details on the Late Submission of Coursework Policy Link

UCD EXAMINATION REGULATIONS

Students should familiarise themselves with the Examination regulations. For more detail see: Exam Regulations website.

Procedure if you are absent or late for an examination

If you are absent from an examination due to extenuating circumstances you should contact the Science Office as soon as possible for advice.

If for some reason you find that you may be late for an examination, it is advised that you should still attend the Examination Centre, where it may be possible that arrangements can be put in place to facilitate you.

- Students who are required to register and have not done so may be refused permission to sit an examination. Repeating students who are required to register for examinations and fail to do so may be refused permission to sit those examinations. Candidates are required to be in possession of their Student Card, which should be displayed on their desk.

USEFUL WEB ADDRESSES	
Science Office	http://www.ucd.ie/science/
Assessment Unit	https://www.ucd.ie/registry/staff/registryservices/assessment//
Fees & Grants Office	http://www.ucd.ie/students/fees
UCD International	http://www.ucd.ie/global/
UCD Student Desk	http://www.ucd.ie/students/studentdesk/
UCD School of Computer Science	http://www.cs.ucd.ie/
UCD School of Earth Sciences	http://www.ucd.ie/geology
UCD School of Mathematics & Statistics	http://www.ucd.ie/mathstat/
UCD School of Physics	http://www.ucd.ie/physics/
UCD School of Biology & Environmental Science	http://www.ucd.ie/bioenvsci/
UCD School of Biomolecular & Biomedical Science	http://www.ucd.ie/sbbs/
UCD School of Chemistry	http://www.ucd.ie/chem/
UCD School of Medicine	http://www.ucd.ie/medicine/
UCD Student Health Service	http://www.ucd.ie/stuhealth/
IT Services	http://www.ucd.ie/itservices/
UCD Library	http://www.ucd.ie/library/
UCD Student Advisers	http://www.ucd.ie/studentadvisers
UCD Conferring Unit	http://www.ucd.ie/confer/
UCD Current Student Website	http://www.ucd.ie/students/

SCIENCE UNDERGRADUATE DEGREE PROGRAMMES

The primary degree awarded in Science is the Honours (Level 8) Bachelor of Science (BSc) following completion of 4 Stages in the programme (240 credits). Generally, this requires 4 years of study. A BSc (General Science) Honours degree may be awarded to students who exit after 3 Stages of study (180 credits). Both of these degrees are Level 8 Honours degrees. **Students who do not achieve a minimum stage GPA of 2.48 at the completion of Stage 3 will not be permitted to progress to Stage 4.**

BACHELOR OF SCIENCE (BSC) DEGREE SUBJECTS

(i) BSc Single Major - The subject is chosen from the following:

- Applied and Computational Mathematics
- Biochemistry & Molecular Biology
- Cell & Molecular Biology
- Chemistry
- Chemistry with Biophysical Chemistry
- Chemistry with Environmental and Sustainable Chemistry
- Physiology
- Environmental Biology
- Financial Mathematics
- Genetics
- Geology
- Mathematics
- Medicinal Chemistry & Chemical Biology
- Microbiology
- Neuroscience
- Pharmacology
- Physics
- Physics with Astronomy & Space Science
- Plant Biology
- Statistics
- Theoretical Physics
- Zoology

(ii) BSc Joint Majors

Joint Majors comprising a pairing of *some* subjects from the above list may be taken. The choice of subjects is contingent on the approval of the Schools concerned. Not all combinations may be available. For the academic year 2022-2023 Joint Majors Degrees **may be available provided the requisite modules can be timetabled and with academic approval covering all subjects involved.**

For students in the School of Mathematics and Statistics joint majors are available in any combination between the following subjects:

- Applied & Computational Mathematics
- Mathematics
- Statistics

Joint Major Degrees may also be available in: Physics with Mathematics or Statistics

(iii) Science, Mathematics & Education

The Science, Mathematics and Education Programme is a five-year programme, consisting of a four-year BSc in Science (Applied Mathematics, Biology, Chemistry, Computer Science, or Physics), Mathematics and Education followed by a one-year MSc in Mathematics and Science Education. On successful completion of the five years of the programme, you are fully qualified to teach Mathematics and either Applied Mathematics, Biology, Chemistry, Computer Science, or Physics to Higher Leaving Certificate Level in an Irish post-primary school. If your chosen Science specialisation is Biology, Chemistry or Physics, you are also fully qualified to teach Science to Junior Certificate Level. The five-year programme has been approved by the Irish Teaching Council.

The aim behind this programme is that you will not only become a scientist or mathematician but also a teacher, and throughout the five years of study you will be encouraged to develop this dual identity. To this end, the programme offers you the opportunity to study Science and Mathematics along with Education in an integrated manner. Another key feature of the programme is that, in keeping with the flexible structure of DN200 Science, it has also been designed to enable you to explore and try out some Education modules in Stages 1 and 2, allowing you to make an informed decision about whether to pursue a teaching career. Therefore, in Stages 1 and 2 while the focus of your studies will be Science and Mathematics, you will have the opportunity to take one Education module in Stage 1 (with a short optional school placement) and two Education modules in Stage 2 (one with a secondary school placement). All undergraduateplacements are organized by UCD.

Should you choose to continue with Science, Mathematics and Education in Stage 3 you will take four Education modules, two of which involve teaching placements - one in a post-primary school and one as a university tutor. At the end of Stage 4 you will enter the one-year MSc in Mathematics and Science Education.

While you will continue some study of Mathematics and Science in Stages 4, Education will be the primary focus of Stages 4 and 5, with a significant placement component. Specifically, you will complete two year-long placements at two different post-primary schools. These placements are designed so that you will not only obtain teaching experience, but also gain a whole-school experience through participating in parent-teacher meetings, curriculum planning, and other school matters. Over the course of the two years you will also develop a Professional Practice Portfolio and in Stage 5 you will undertake a research dissertation.

To meet Teaching Council approval to teach Applied Mathematics, Biology, Chemistry, Computer Science, Mathematics or Physics to Higher Leaving Certificate Level, you will study a minimum 60 ECTS credits of your chosen subject at third level. To ensure that a prospective teacher of Biology, Chemistry or Physics has appropriate discipline knowledge to teach Junior Certificate Science we ask that you complete at least 5 ECTS credits in each of Biology, Chemistry, and Physics.

MODULE LEVEL RESTRICTIONS BY STAGE

Module Level restrictions for Honours Bachelors Degree:

To graduate with a 180 or 240 credit honours degree, the credits awarded must contain a minimum of 40 ECTS credits at Level 3 or above.

For more information see - ***Academic Regulations, Page 12***

University Diploma in Science (Level 7)

The Science Programme Board has established a Minor Award of a Level 7 University Diploma in Science for students who exit the programme prior to completing 3 years and who have completed 110 credits in total, 85 of which must be programme credits (Core/Option modules). At least 45 credits must be at Level 1 or above.

INFORMATION ON MODULES GRADES

GRADE	GRADE-POINT	DESCRIPTION
A+	4.2	Excellent
A	4	
A-	3.8	
B+	3.6	Very Good
B	3.4	
B-	3.2	
C+	3	Good
C	2.8	
C-	2.6	
D+	2.4	Acceptable
D	2.2	
D-	2	
FM+, FM, FM-	0.0	Fail
NM	0.0	No Grade. Work submitted did not merit a grade.
ABS	0.0	No work submitted by student or the student was absent.

Repeat attempt at a module:

A repeat is the student's opportunity for a second attempt at the module through re-attendance when it is next offered. The following grade scale will apply:

REPEAT GRADES AND REPEAT GRADE POINTS	
MODULE GRADE	**GRADE POINT**
A+(R)	3.6
A (R)	3.4
A-(R)	3.2
B+(R)	3.0
B (R)	2.8
B-(R)	2.6
C+(R)	2.4
C (R)	2.2
C-(R)	2.0
D+(R)	2.0
D (R)	2.0
D-(R)	2.0
FM+(R); FM(R);FM-(R)	0.0
NM (R)	0.0
ABS (R)	0.0

Where a module grade is awarded as part of a resit attempt at the module, the results are returned as pass/fail and suffixed with (R) to indicate it was achieved as a resit attempt at the module. The following grade scale are used for resit attempts at a module.

MODULE GRADE	GRADE POINT	DESCRIPTION
P (R)	2.0	Passing Module Grade for Resit attempt.
F (R)	0.0	Fail for Resit attempt.
NM (R)	0.0	No grade. Work submitted did not merit a grade for remediation attempt.
ABS (R)	0.0	No work was submitted by the student or the student was absent from assessment for Remediation attempt.

IMPORTANT: For more detailed information on Grade Scales view Academic Regulations – Module Grades on Pages 25-30.

STUDENT WORKLOAD

Student Workload: Student workload is the amount of time spent by students on university study, including both scheduled contact time (lectures, tutorials, laboratories, workshops, etc.) and individual (or group) study and is measured through the allocation of ECTS credits. **Where a Programme Board determines that the overall workload for a particular student in a particular trimester or academic session is unsustainable, the Programme Board may require such a student to adjust their workload to a sustainable level.**
Full-time undergraduate students may not register to more than 40 credits in any trimester. In determining workload, credits from resits and repeats are counted as part of the overall workload. Students will not be required to take more than 30 credits per trimester.

PROGRESSION

Students with 50 and 55 credits

Under University regulations, students are entitled to progress to the next Stage carrying up to 10 credits from the previous stage. **The student must have completed all preceding stages to the incomplete stage *(Academic Regulations 5.4).*** Within the BSc programme, the following additional progression rules apply: *A student may progress to the next Stage of a subject if they have the possibility of meeting the core and optional requirements of the uncompleted Stage through repeating or selecting modules and with the approval of the School. Module prerequisites may be waived by a School if a student is taking the appropriate Stage modules as co-requisites. A student will be provisionally accepted into a Subject under the mechanism approved by the Programme Board.*

Progression to Stage 4 Science

The satisfactory completion of the requirements of Stage 3 and **achieving a minimum GPA of 2.48** will allow a student to proceed into their allocated major in Stage 4. Students who complete Stage 3 with a GPA of 2.47 or below, will graduate with a BSc (General Science) Degree. **Students who have completed Stage 3 will not be permitted to replace or substitute modules with a view to raising their GPA**. The BSc (General Science) degree is a level 8 Honours degree.

Students who exit the degree at the end of Stage 3

*Students who opt to exit from their degree at the end of Stage 3, and graduate with a BSc (General Science) degree, **will not be eligible** to return to Stage 4 of their degree at a later date.*

RECOGNITION OF PRIOR LEARNING

Recognition of Prior Learning: Credit may be awarded within a programme for certificated or experiential prior learning, achieved outside of that programme. This credit will, subject to the approval of the Programme Board, count towards progression and programme credit accumulation requirements. If you would like to have prior learning recognised to count towards your UCD programme, please contact the Science Office and consult the RPL Policy document.

Please note: An application for RPL should be made **as early as possible** and preferably before you commence the relevant module/stage/programme.

POLICY ON UNDERGRADUATE CONTINUATION

The Science Governing Board is responsible for monitoring the overall performance of students registered to each programme under its remit. They are also responsible for monitoring the progression of students and ensuring their academic welfare.

The University recognises that there are many factors which may affect a student's academic progress. The Continuation – Academic Progress Policy : describes the University's approach to supporting students to maintain progress and to identify those students who may need additional supports.

Further information is available from the Student Engagement, Conduct, Complaints and Appeals website.

The policy will seek in the first instance to identify timely interventions to ensure that students complete their programme. At the end of each examination period, the Governing Board reviews students' performance and where a student has failed 15 credits or more in a trimester, they will be contacted under the Continuation Policy process.

Students are invited to meet with the Associate Dean or a member of the College Office or faculty. Should a student's performance continue to reflect poor performance or non-engagement following three Continuation Review meetings, the Governing Board may, in the interest of the student, recommend that the student is discontinued from their programme of study. **Please Note: the maximum length of time to complete Stages 3 & 4 is 6 years in total.**

It is in the interest of the student to respond and engage with the meeting process under this policy. The purpose of these meetings is to provide support and to help students get back on track with their studies. Students will be made aware of the supports which are available at these meetings.

FITNESS TO CONTINUE IN STUDY AND FITNESS TO CONTINUE TO PRACTICE

A concern may arise because Faculty, staff or others consider that a students' health, behaviour or actions may constitute a risk to the learning, working, or living experience of themselves or others. The University has a duty to ensure that a student is fit to continue to study and/or practice while undertaking education and training. The objectives of this policy are to:

- Identify and support students whose behaviour, capacity, welfare or wellbeing are of concern to themselves or others, or whose behaviour or actions are impacting adversely on, or pose a risk to, the learning, working, or living experiences of themselves or others;
- Guide students who experience issues that may affect their Fitness to Continue in Study and or practice.
- Provide a suitable framework for the effective, consistent and timely identification and management of Fitness to Continue in Study and Practice issues that may arise;
- Protect the student, staff, faculty, placement providers, the University, and the public;
- Treat concerns regarding student Fitness to Continue in Study seriously and as quickly as possible.
- Please consult the following links to view the full Fitness to Continue to Study policy and see:

UCD Student Fitness to Practise Policy and Procedures
UCD Fitness to Continue in Study Policy and Procedures

GENERAL REGULATIONS

The Academic Regulations are a set of rules governing the University's educational offerings. They are supported by academic policy, procedures and guidelines. All students are expected to adhere to the General Regulations of the University. The Document Library provides links to individual policy documents which are of relevance to students.

Degree GPA

The final degree GPA is based 70% on the final Stage and 30% on the penultimate Stage. For a 240 credit (four Stage) degree it is 70:30 based on Stage 4: Stage 3. Students who graduate with a 180 credit (3 Stage) BSc (General Sciences) Degree will have their degree GPA based 70% on Stage 3 and 30% on Stage 2. In the BAFS programme the final degree GPA is calculated on the unweighted GPAs of the final and penultimate stages of the programme and based on modules, including elective modules, that the student completes and passes to satisfy the credit requirements of those stages.

REPEATS AND RESITS IN UNDERGRADUATE SCIENCE PROGRAMMES

If you do not pass a module, what can you do?

Remediation: The method of remediation for each module can be found online in the relevant Module Descriptor but will comprise some combination of the following:

- **Repeat** the module when it is next offered. The grade awarded is followed by (R), e.g. A+ (R) and has a reduced GPA value. Please see Pages 18 & 19 of this handbook for the Repeat Grade Scales.
- **Resit the assessment** for that module, if a resit is offered in one of the two subsequent trimesters. The resit assessment will be graded as pass (PR), fail (FR), NM (R) or ABS (R)) with a grade point of 2.0 for a pass (PR), or 0 for (FR), NM (R) or ABS (R). The resit may be a single terminal examination and/or may require the submission of coursework or other assessment tasks during the trimester. You should always seek advice from the Science Office and the Module Coordinator/School involved if you find yourself in this position.

CURRICULUM INFORMATION STAGES 1- 4

DN200 STAGE 1- 4

You can find detailed information on the programme curriculum as well as individual syllabi by Stage under the Science Course Search.

View details on the above link and take the following steps:

1. Select: Undergraduate Programmes
2. Scroll down and select 'Science'
3. Select the programme you wish to view, e.g. DN200 Science (BHSCI001)
4. Select Programme Information
5. Select the Major you wish to view.
6. To view Stages 3 and 4 select Single Major. Click on View All Modules and scroll down to see modules across all stages of this degree programme
7. Select the subject and stage you wish to view and scroll down to view modules in Stages 3 and 4
8. For all Stages, click on the module code for further details on the module (learning outcomes, assessment strategy, etc)

Science Stage 1

SCIENCE (DN200)
BIOLOGICAL, BIOMOLECULAR & BIOMEDICAL SCIENCE (DN200BBB)
CHEMISTRY & CHEMICAL SCIENCES (DN200CCS)
MATHEMATICAL, PHYSICAL & GEOLOGICAL SCIENCES (DN200MPG)

SCIENCE STAGE 1 SUBJECT STREAMS (DN200)

You have chosen one of four streams within DN200 depending on your scientific interests. By choosing a stream, you can tailor your study plan to focus on a particular area or sample more widely to explore your interests. UCD Horizons enhances the subject choice available, so that of your 12 modules, one may be selected from other disciplines (e.g. languages) as an elective in the Spring Trimester. You may change your stream by informing the staff in the Science Office before the registration process closes – the date will be advised at the start of the Autumn Trimester.

- UCD Science (DN200) is a single point of entry for **27 separate degree subjects**. The pathways, from the point of entry to graduation, each of these subjects are described in the UCD Science prospectus which can be found at UCD Science.
- The course in **Stage 1 (first year)** is divided into 12 modules. Students choose their modules in order to fulfil the first-year requirements for the subjects that interest them most. Students can either focus on a particular area, but must fulfil the requirements for at least 2 subjects, or choose to cover the core requirements for a wide range of subjects (including subjects from different streams). **There is no competition for places in Stage 1; students are guaranteed their subjects of choice.**
- You may find it useful to view the Science YouTube playlist available at the UCD Science Youtube Channel in advance of selecting your modules, where you will find information on many of the different subject areas.
- In **Stage 2 (second year)** students cover the requirements for **a minimum of 2 or 3 subjects up to a maximum of 4 subjects, except students selecting Geology who are not required to select additional subjects, however, students are strongly advised to register to a second subject to ensure that they maintain their options for Stage 3**. Due to timetable and workload constraints not all combinations of subjects are possible in Stage 2 – but almost all combinations are possible within each of the BBB, CCS and MPG subject streams, and students can also combine Stage 2 subjects across subject streams. The choice of Stage 2 subjects that can be combined depends on the number of core modules shared between those subjects and the extent to which other requirements have been met in Stage 1. Students can study any subject in Stage 2 for which they have met the Stage 1 requirements; you are guaranteed any subject in Stage 2 that you are qualified to take.
- In **Stage 3 (third year) and Stage 4 (fourth year)** students study one of their Stage 2 subjects to degree level and this subject is their degree major. The selection of degree major may be competitive**.** In previous academic years 98% of students who completed Stage 2 got their first choice of degree major in Stage 3. There may be a limited number of joint-major degrees available.

DN200 No preference

You have chosen to keep your options open. You are advised to use Science Programme literature to choose modules that will allow you to sample from areas that interest you, while ensuring that you fulfil the requirements for subjects you may wish to study in later Stages. Some modules that are required for a specific subject may be deferred to second year (Stage 2) to increase your range of options in first year (Stage 1) or to allow you to take introductory modules. **Be aware that if you defer too many modules to Stage 2 (e.g. Programme Cores – see Table 1, Page 31), you may restrict your choice of degree subjects**.

The Mathematics modules have been designed to meet the needs of different subjects. Please ensure that you are taking the appropriate set of Mathematics modules. Further advice is contained within each subject area, DN200BBB, DN200CCS and DN200MPG.

DN200 BBB – Biological, Biomedical & Biomolecular Sciences

You have chosen to focus your studies on the Biological, Biomedical and Biomolecular disciplines. This will lead to a degree in one of the following subjects

- Biochemistry & Molecular Biology
- Cell & Molecular Biology
- Environmental Biology
- Genetics
- Microbiology
- Biology, Mathematics & Education
- Pharmacology
- Physiology
- Plant Biology
- Neuroscience
- Zoology

There are a number of modules you must take to continue studying in this area In addition to Biology, you must complete two modules of Mathematics and a module of Chemistry. You are not limited to these subjects. You may choose modules from other areas to widen the subject choices available to you.
If you are sure of your interest in Biological disciplines, we recommend that you take additional modules in first year (Stage 1) that are required for your degree (**Programme Cores – see Table 1 Page 31**) or select modules that deepen your knowledge in this area. **If you defer too many Programme Cores, this may limit some of your options in Stage 2.** If you are interested in keeping your options open regarding pursuing a degree in the Chemical, Mathematical, Physical or Geological Sciences you should carefully read the DN200 CCS and DN200 MPG sections and seek academic advice if necessary, e.g. by submitting your query on the Ask Science Connector form

DN200 CCS – Chemistry & Chemical Sciences

You have chosen to focus your studies on the Chemical Sciences. This will lead to a degree in one of the following subjects:

- Chemistry,
- Medicinal Chemistry & Chemical Biology
- Chemistry with Biophysical Chemistry
- Chemistry with Environmental & Sustainable Chemistry
- Chemistry, Mathematics & Education

There are a number of modules you must take to continue studying in these areas (**Table 1 - Page 31).** In addition to Chemistry, you must complete two modules of Mathematics and may be required to take a module in Biology. You are not limited to these subjects. You may choose modules from other areas to widen the choices available to you.

If you are sure of your interest in Chemistry and Chemical Sciences, we recommend you take additional modules in first year (Stage 1) that are required for your degree (**Programme Cores – see Table 1- Page 31**) or select modules that deepen your knowledge in this area. **If you defer too many Programme Cores, this may limit some of your options in Stage 2**. If you are not required to take CHEM00010, seek academic advice as you could consider taking CHEM20080 in the Autumn Trimester.
If you are interested in keeping your options open regarding pursuing a degree in the Biological, Mathematical, Physical or Geological Sciences you should carefully read the DN200 BBB and DN200 MPG sections and seek academic advice if necessary, e.g. by submitting your query on Ask Science Connector form

DN200 MPG – Mathematical, Physical & Geological Sciences

You have chosen to focus your studies on the Mathematical and/or Physical and/or Geological Sciences. This will lead to a degree in one of the following subjects:

- Geology
- Physics
- Physics with Astronomy & Space Science
- Theoretical Physics
- Applied Mathematics, Mathematics & Education
- Applied & Computational Mathematics
- Statistics
- Mathematics
- Physics, Mathematics & Education
- Financial Mathematics
- Computer Science, Mathematics & Education

Each subject has specific modules that you are required to take to progress in this area, and in Stage 1 only SCI10010 is common to all subjects (**Table 1- Page30)** Some of these modules may be deferred to second year (Stage 2) if you wish to explore your interests in other subjects within this area or more broadly within Science or if you are required to take introductory modules. You are not limited to these subjects. You may choose modules from other areas to widen the choices available to you.

If you are sure of your interest in these subjects, we recommend you select additional modules in first year (Stage 1) that are required for your degree (**Programme Cores – see Table 1 – Page 31)** or select modules that deepen your knowledge in this area. **If you defer too many Programme Cores, this may limit some of your options in Stage 2**.

To be eligible to take a degree in the Physical Sciences, any student who did not achieve at least an O1 or H5 in Leaving Certificate Mathematics MUST TAKE MATH00010 and achieve an A-. Students who are required to take MATH00010 and wish to progress into one of the Physical Science degrees **MUST TAKE** MATH 10400 in the Summer Trimester as a substitute for MATH10350. Students not required to take MATH00010 **MUST TAKE** either MATH10310 or MATH10350 in Stage 1.

You should note that the requirement for Mathematics within DN200 MPG varies and you should make sure that you are taking the correct set of Mathematics modules for your chosen subjects. Please seek academic advice to confirm your choices if you are in any doubt**.**
If you are interested in keeping your options open regarding pursuing a degree in the Biological or Chemical Sciences you should carefully read the DN200 BBB and DN200 CCS sections and seek academic advice if necessary, e.g. by submitting your query on Ask Science Connector form

SCIENCE, MATHEMATICS AND EDUCATION

The Science, Mathematics and Education Programme is a five-year programme, consisting of a four-year BSc in Science (Applied Mathematics, Biology, Chemistry, Computer Science, or Physics), Mathematics and Education followed by a one-year MSc in Mathematics and Science Education. On successful completion of the five years of the programme, you are fully qualified to teach Mathematics and either Applied Mathematics, Biology, Chemistry, Computer Science, or Physics to Higher Leaving Certificate Level in an Irish post-primary school. If your chosen Science specialisation is Biology, Chemistry or Physics, you are also fully qualified to teach Science to Junior Certificate Level. The five-year programme has been approved by the Irish Teaching Council.

The aim behind this programme is that you will not only become a scientist or mathematician but also a teacher, and throughout the five years of study you will be encouraged to develop this dual identity. To this end, the programme offers you the opportunity to study Science and Mathematics along with Education in an integrated manner. Another key feature of the programme is that, in keeping with the flexible structure of DN200 Science, it has also been designed to enable you to explore and try out some Education modules in Stages 1 and 2, allowing you to make an informed decision about whether to pursue a teaching career. Therefore, in Stages 1 and 2 while the focus of your studies will be Science and Mathematics, you will have the opportunity to take one Education module in Stage 1 (with a short optional school placement) and two Education modules in Stage 2 (one with a secondary school placement). All undergraduate placements are organized by UCD.

Should you choose to continue with Science, Mathematics and Education in Stage 3 you will take four Education modules, two of which involve teaching placements - one in a post-primary school and one as a university tutor. At the end of Stage 4 you will enter the one-year MSc in Mathematics and Science Education.

While you will continue some study of Mathematics and Science in Stages 4, Education will be the primary focus of Stages 4 and 5, with a significant placement component. Specifically, you will complete two year-long placements at two different post-primary schools. These placements are designed so that you will not only obtain teaching experience, but also gain a whole-school experience through participating in parent-teacher meetings, curriculum planning, and other school matters. Over the course of the two years you will also develop a Professional Practice Portfolio and in Stage 5 you will undertake a research dissertation.

To meet Teaching Council approval to teach Applied Mathematics, Biology, Chemistry, Computer Science, Mathematics or Physics to Higher Leaving Certificate Level, you will study a minimum 60 ECTS credits of your chosen subject at third level. To ensure that a prospective teacher of Biology, Chemistry or Physics has appropriate discipline knowledge to teach Junior Certificate Science we ask that you complete at least 5 ECTS credits in each of Biology, Chemistry, and Physics.

CHOOSING MODULES IN STAGE 1

- During Orientation Week, staff from the Science Office and academic staff from all disciplines will be available to assist you in choosing your modules and in completing your registration.

- All full-time students are required to study twelve modules in a year – it is recommended that you study six modules in each trimester. The maximum number permitted in a trimester is eight. At least eleven of your Stage 1 modules must be from within Science. You may take up to one non-science elective modules in Stage 1 in the Spring Trimester. You are advised to consider your choice of elective module carefully.

- Students are **guaranteed their subjects of choice in Stage 1** and, when in Stage 2, can study any subjects that they are qualified to take and for which the required modules can be combined and timetabled.

- You must take at least two Mathematics modules during Stage 1. Note that the requirements listed in Table 2 represent the minimum level of Mathematics required, but that alternative higher-level modules may be available (**see Mathematics information on Page 29/30 for further information**).

- The wide variety of Science modules available in Stage 1, allows you to sample and experience a number of subjects, while also studying the core modules required for your discipline. The choices you make in first year will have a bearing on your final degree subject(s). Make sure that you meet the core requirements for your subject of choice and **consider taking Programme Cores (Table 1 Page 31) to reduce restrictions on your Stage 2 choices**. The conditional core modules required for entry to the degrees in the various subject areas are listed **in Table 2, Page 32)**
- Science laboratory and tutorial times will be automatically allocated at the start of term after you register online to your preferred area and your optional Science modules. Once the allocation to practicals and tutorials has been made, usually during the first week of term, you will be able to see and print your individual timetable. School offices should be contacted directly for queries on laboratory and tutorial time allocations.

- It may be possible to take a joint degree combining two subjects, subject to the agreement of the two disciplines concerned. The range of joint degrees available is limited and you should seek academic advice from the relevant subjects and further information from the Science Office if you wish to pursue this possibility.

INFORMATION RELATING TO PARTICULAR SUBJECTS IN STAGE 1

Mathematics

Students are required to take at least two modules in Mathematics (Linear Algebra and Calculus) during their degree in UCD. Mathematics teaching has been tailored to meet the requirements of different programmes. However, Mathematics is fundamental to many disciplines of modern Biology and Chemistry and you should consider studying Mathematics to the level of your ability. You can sample the Mathematics for Physical Sciences modules and if you find them too challenging, you can move to Mathematics for the Sciences in the first weeks of the trimester without affecting your ability to complete the modules. Students must take one Mathematics module in the Autumn Trimester. If a student is required to do MATH00010 then their Calculus module (MATH10310) must be deferred until 2nd year (Stage 2). If you are interested in pursuing your studies in Mathematics to a higher level you should seek academic advice in relation to the Mathematics modules you should study.

Mathematics Requirements

	Subjects/Areas	Mathematics Topics		Comment (to substitute Mathematics modules, you must go to the Science Office)
		Linear Algebra	**Calculus**	
1	Biological Biomedical and Biomolecular (excluding Education), Chemistry and Chemical Sciences (excluding Education), Geology	MATH10290	MATH10310	MATH10340 can be taken instead of MATH10290 if students want to keep Mathematical and Physical Science subjects open. MATH10350 can be taken instead of MATH10310 if students want to keep the Education degrees or Mathematical and Physical Science subjects open.
2	Biology, Mathematics &Education, Chemistry, Mathematics & Education	MATH10290	MATH10350	MATH10340 can be taken instead of MATH10290 if students want to keep Mathematical and Physical Science subjects open. MATH10350 also fulfills the requirements for all BBB, CCS and Geology subjects (see above).
3	Physics, Theoretical Physics, Physics with Astronomy and Space Science, Physics, Mathematics & Education, Mathematics, Applied and Computational Mathematics, Financial Mathematics Statistics, Applied Mathematics, Mathematics & Education Computer Science, Mathematics & Education	MATH10340	MATH10350	Students who have not attained at least H3 in Leaving Certificate Mathematics (or equivalent) are strongly advised to consult with either the School of Physics or the School of Mathematics & Statistics – depending on their main area of interest. MATH10400 can be taken in the Summer Trimester instead of MATH10350 if a student has to take MATH00010 in Trimester 1.

Table 1. Modules required for B.Sc. Degrees within Science (DN200)

Degrees	Conditional Core Modules that may be required (*Please see Table 2)*	Core Modules that must be taken in Stage 1 (see footnote)	Programme Cores: Compulsory Modules that students may choose to take in either Stage 1 or Stage 2
BIOLOGICAL, BIOMEDICAL & BIOMOLECULAR SCIENCES (BBB)			
Biochemistry & Molecular Biology, **Cell & Molecular Biology** **Environmental Biology** **Genetics** **Microbiology** **Neuroscience** **Pharmacology** **Physiology** **Plant Biology** **Zoology**	BIOL00010 CHEM00010 MATH00010 PHYC10070 (only a conditional core for Neuroscience and Physiology)	**SCI10010** **BIOL10110** **CHEM10050** **MATH 10290*, MATH10310***	At least two of : BIOL10130 BIOL10140 BMOL10030
Biology, Mathematics & Education	BIOL00010 CHEM00010 PHYC10070	SCI10010 BIOL10110 CHEM10050 MATH10290*, MATH10350 MATH10410 STAT10060	BIOL10130 BIOL10140 BMOL10030
CHEMISTRY & CHEMICAL SCIENCES (CCS)			
Chemistry, **Chemistry with Biophysical Chemistry,** **Chemistry with Environmental and Sustainable Chemistry,** **Medicinal Chemistry and Chemical Biology**	CHEM00010 MATH00010 BIOL00010 (only a conditional core for Biophysical Chemistry & Medicinal Chemistry)	**SCI10010** **CHEM10050** **MATH10290*, MATH10310*** BIOL10110 (only a core for Biophysical Chemistry & Medicinal Chemistry)	CHEM20140
Chemistry, Mathematics & Education	BIOL00010 CHEM00010 PHYC10070	SCI10010 CHEM10050 MATH10290*, MATH10350 MATH10410 STAT10060	CHEM 20140
MATHEMATICAL, PHYSICAL & GEOLOGICAL SCIENCES (MPG)**			
Geology	MATH00010	SCI10010 **GEOL 10020***,** **GEOL10060***** **GEOL10030***** MATH10290*, MATH10310*	
Physics, **Physics with Astronomy & Space Science,** **Theoretical Physics**	ACM10080 MATH00010 PHYC10070	**SCI10010** **PHYC10080** **MATH 10340, MATH10350 or MATH10400****	ACM10060** PHYC10050** PHYC10250 PHYC20080**
Physics, Mathematics & Education	ACM10080 BIOL00010 CHEM00010 PHYC10070	SCI10010 **PHYC10080** MATH10340, MATH10350 MATH10410, ACM10060 STAT10060	MATH10320 PHYC10250 PHYC20080**
Applied and Computational Mathematics, **Mathematics,** **Financial Mathematics** **Statistics**	ACM10080 (*only required for Applied and Computational Mathematics*)	**SCI10010** **ACM10060** **MATH10340, MATH 10350** **STAT 10060**	MATH10040, MATH10320 *(Mathematics & Financial Mathematics)* MATH10320 (*Applied & Computational Maths and Statistics*) ECON10720 *(Financial Maths)*
Applied Mathematics, Mathematics & Education **Computer Science, Mathematics & Education**	ACM10080 *(only for Applied Mathematics)* *COMP10010 (only for Computer Science)*	SCI10010 ACM10060 MATH 10340, MATH10350, MATH10410 STAT10060 COMP10020 *(Comp. Science)*	MATH10040 MATH10320 COMP10040 *(Computer Science, Maths and Education)*

Footnotes for Table 1:

The modules highlighted in red text constitute all of the compulsory modules for any subject in BBB and CCS except for the education pathways (note also Conditional Cores and Programme Cores).

The modules highlighted in purple text constitute all of the compulsory modules for any subject in MPG except for the education pathways (note also Conditional Cores and Programme Cores).

* The following should be noted for the MATH10290 and MATH10310 modules:
  Students required to take MATH10290 can take MATH10340 instead.
  Students required to take MATH10310 can take MATH10350 instead.
  Students required to take MATH00010 must defer a Level 1 Calculus module (MATH10310 or MATH10350) until Stage 2.

** The following should be noted for students following one of the Physics Degrees:
  PHYC10050 must be taken in either Stage 1 or Stage 2 for Physics with Astronomy and Space Science.

  PHYC 20080 should only be taken by students in Stage 1 if they have achieved H5 in both Mathematics and Physics at Leaving Certificate.
  ACM10060 should be taken in Stage 1 by students wishing to pursue Theoretical Physics.
  Students obliged to take MATH00010 and who gain at least an A-, may pursue Physics subjects if they take MATH10400 in Trimester 3 of their first year. It will count towards the credits for Stage 1.

*** To be eligible to take a degree in Geology, students must take either GEOL10060 or GEOL10020 (**or both**) in Stage 1. Students who wish to take Stage 2 Geology are strongly recommended to take GEOL 10030. GEOL 10030 cannot usually be taken in the same year as Stage 2 Geology because of timetable incompatibility

Conditional Core Modules: Some students may not have a sufficiently strong background in a subject and may be required to take an introductory module in the subject before they can take more advanced modules. Table 2 outlines the specific "prior learning" requirements associated with these modules**.**

Table 2. Prior Learning requirements for Conditional Cores

Relevant Leaving Certificate Subject	Requirement (Conditional Core Module)	Rule
Applied Mathematics	ACM10080 Applied Mathematics, Methods & Applications	For the degrees where ACM10080 appears as a Conditional Core module in Table 1, students must take ACM10080 and/or have attained a minimum grade H5 in Leaving Certificate Higher Applied Mathematics (A Level; Grade C).
Biology	BIOL00010 Fundamentals of Biology	To take BIOL10110 students must have taken BIOL00010 or attained a minimum grade O2 or H6 in Leaving Certificate Biology (A Level; Grade D). BIOL00010 is also recommended for students taking BIOL10130 and BIOL10140 who have not achieved an O2 or H6 in Leaving Certificate Biology.
Chemistry	CHEM00010 Introductory Chemistry	To take CHEM10050, students must have taken CHEM00010 or have attained a minimum grade O1 or H5 in Leaving Certificate Chemistry (A Level; Grade C).
Mathematics	MATH00010 Introductory Mathematics	Students who did not achieve a minimum grade 01 or H5 Leaving Certificate Mathematics (GCSE; Grade A*, A Level; Grade C) must take MATH00010 in addition to other required Mathematics modules.
Physics	PHYC10070 Foundations of Physics	To take PHYC10080 students must have taken PHYC10070 or attained a minimum grade of H5 in Higher Leaving Certificate Physics (A Level; Grade C).
Computer Science	COMP10290 Computation for Scientists	For the degrees where COMP10290 appears as a conditional core, students who did not achieve a minimum grade 01 or H5 Leaving Certificate Computer Science (GCSE; Grade A*, A Level; Grade C) must take COMP10290.

STAGE 1 OPTION MODULES

Module Code	Module Title	Trimester Offered
ACM10080	Applied Maths: Mechs and Methods	Autumn
ACM10090	Climate Change: Causes & Consequences	Autumn
BIOL00010	Fundamentals of Biology	Autumn
BIOL10130	Biology in Action	Autumn
BIOL10140	Life on Earth	Autumn
CHEM00010	Introductory Chemistry	Autumn
CHEM10040	The Molecular World	Autumn
COMP10010	Introduction to Programming I	Autumn
MATH10040	Numbers & Functions	Autumn
PHIL10160	Critical Thinking	Autumn
PHYC10050	Astronomy & Space Science	Autumn
PHYC10070	Foundations of Physics	Autumn
PHYC10210	Quanta, Particles & Relativity	Autumn
PHYC20080	Fields, Waves & Light	Autumn
STAT10010	Research Methods	Autumn
GEOL10050	Earth & Humanity	Autumn & Spring
STAT10050	Practical Statistics	Autumn & Spring
ACM10060	Appl of Differential Equations	Spring
BIOL10110	Biology-Cell Biology & Genetics	Spring
CHEM10050	Basis of Organic & Biol Chem	Spring
CHEM10100	Aspects of Med Chem & Chem Bio.	Spring
CHEM20140	Introductory Transition Metal	Spring
COMP10010	Introduction to Programming 1	Autumn
COMP10290	Computation for Scientists	Autumn
COMP10020	Introduction to Programming II	Spring
COMP10060	Computer Science for Engineers I	Spring
COMP10130	Computer Science in Practice	Spring
GEOL10020	Earth Science & Materials	Spring
GEOL10030	Field Geology, Level 1	Spring
GEOL10040	Earth, Environment & Society	Spring
MATH10320	Mathematical Analysis	Spring
MATH10410	Maths & Science Education	Spring
PHIL10200	Intro Philosophy of Science	Spring
PHYC10080	Frontiers of Physics	Spring
PHYC10250	Thermal Physics & Materials	Spring
STAT10060	Statistical Modelling	Spring

SCIENCE STAGE 2

SCIENCE (DN200)
BIOLOGICAL, BIOMOLECULAR & BIOMEDICAL SCIENCE (DN200BBB)
CHEMISTRY & CHEMICAL SCIENCES (DN200CCS)
MATHEMATICAL, PHYSICAL & GEOLOGICAL SCIENCES (DN200MPG)

BIOLOGICAL, BIOMEDICAL AND BIOMOLECULAR SCIENCES (DN200 BBB)

Programme Core – Physiology and Neuroscience only

If Physics has not been taken in the Leaving Certificate, and if not previously taken in Stage 1, students enrolled to Stage 2 Physiology or Stage 2 Neuroscience must take PHYC10070 Foundations in Physics in Stage 2.

Allowed Substitution and CHEM20090

All BBB subjects in Stage 2 require the module Chemistry for Biologists (CHEM20090) unless a student is also taking a CCS subject in Stage 2 (e.g. Chemistry and Medicinal Chemistry). In this case the modules taken as part of the Chemistry syllabus are an allowed substitution for CHEM20090.

PROGRESSION TO STAGE 2 DN200

Students entering Stage 2 science may select **Geology as a single subject**, however students are strongly advised to register to a second subject to ensure that they maintain their options for Stage 3. Students selecting all other subjects must select a minimum of **two** subjects. If both of those subjects are selected from either Pharmacology or Neuroscience, however, students **must choose an additional subject**. Subject selection takes place online during August. When you select your subjects, you will be pre-enrolled to the relevant core modules for Stage 2. You will be able to select your remaining modules when module registration opens in August.

Stage 2 Subjects DN200

DN200 BBB – Biological, Biomedical and Biomolecular Sciences

If you choose to focus your studies on the Biological, Biomedical and Biomolecular disciplines this will lead to a degree in one of the following subjects:

Biochemistry & Molecular Biology
Cell and Molecular Biology
Environmental Biology
Genetics
Microbiology
Pharmacology
Physiology
Plant Biology
Neuroscience
Zoology
Biology, Mathematics & Education

DN200 CCS – Chemistry and Chemical Sciences

You have chosen to focus your studies on the Chemical Sciences. This will lead to a degree in one of the following subjects:

Chemistry
Medicinal Chemistry and Chemical Biology
Chemistry with Biophysical Chemistry
Chemistry with Environmental & Sustainable Chemistry
Chemistry, Mathematics & Education

DN200 MPG – Mathematical, Physical and Geological Sciences

You have chosen to focus your studies on the Mathematical and/or Physical and/or Geological Sciences. This will lead to a degree in one of the following subjects:

Geology
Physics
Physics with Astronomy & Space Science
Theoretical Physics
Applied & Computational Mathematics
Computer Science, Mathematics & Education
Statistics
Mathematics
Financial Mathematics
Physics, Mathematics & Education
Applied Maths, Mathematics & Education

Table 3 Core modules required for Stage 2 Biological, Biomedical and Biomolecular Sciences degree in DN200 (BBB)

Conditional core (may need to be taken in Stage 1 depending on LC results, see Table 2 in Stage 1 Guide)

Core (taken in Stage 2)

Programme core (taken in Stage 1 or 2)

Programme core (taken in Stage 2 or 3)

Module code	Title	Trimester	Biochem	Micro	Pharm	Neuro	Gene (A)	Gene (B)	CELB	Env Biol	Plant	Zool	Physiol	Maths, Biology, and Education (A)	Maths, Biology, and Education (B)	
Any 2 of BIOL10130, BIOL10140 and BMOL10030																
MATH10310	Calculus for Science	Autumn														
PHYC10070	Foundations of Physics	Autumn														
CHEM20090	Chemistry for Biology	Autumn														
BMOL20060	Biomolecular Lab Skills 1	Autumn														
BMOL20070	Biomolecular Lab Skills 2	Spring														
BMOL20090	Molecular Genetics & Biotech	Autumn														
BMOL20110	Biomolecular Sciences	Autumn														
BIOC20060	Biochemistry in Action	Spring														
MICR20050	Microbiology in Med. Biotech. & Env	Spring														
PHAR20040	Pharmacology: Biomedical Science	Spring														
NEUR20050	Principles of Neuroscience	Spring														
GENE20020	Principles of Genetics	Spring														
BIOL20060	Scientific Communication	Spring														
CELB20060	Principles of Cell & Molecular Biology	Autumn														
ENVB20050	Principles of Env Biol & Ecol	Spring														
BOTN20040	Principles of Plant Biology	Spring														
ZOOL20030	Principles of Zoology	Spring														
PHYS20030	Organ and Systems Physiology	Spring														
PHYS20040	Cell and Tissue Physiology	Autumn														
EDUC20020	Science & Maths Pedagogy	Spring														
EDUC20030	Key Ideas in Education	Autumn														
ACM10100 [1]	Differential & Difference Equations	Spring														
MST20070	Multivariable Calculus	Autumn														
MST20040	Analysis	Spring														
Any 1 of GENE20020, MICRO20050, PHAR20040 [2]															See note	

1 *If ACM10060 was not taken in Stage 1, then ACM10100 must be taken in Stage 2*

2 ***Any 1 of 3 modules(GENE20020, MICR20050 or PHAR20040) required in Stage 2 for Stage 3 Mathematics, Biology, and Education (B)***

Table 4 Core modules required for Stage 2 Chemistry & Chemical Sciences degree in DN200 (CCS)

Core (taken in Stage 2)
Programme core (taken in Stage 1 or 2)
Programme core (taken in Stage 2 or 3)

Module code	Title	Trimester	Chem	Biophys Chem	Env Chem	Med Chem	Maths, Chemistry, and Education
MATH10310	Calculus for Science	Autumn					
CHEM20080	Basis of Physical Chemistry	Autumn					
CHEM20100	Basis of Inorganic Chemistry	Autumn					
CHEM20120	Physical Chemistry (Level 2)	Spring					
CHEM20140	Introductory Transition Chemistry	Spring					
CHEM20040	Organic Chemistry (Level 2)	Autumn					
CHEM20030	Functioning of Biomolecules	Spring					
CHEM20110	Env & Sustain Chem	Spring					
CHEM20050	Med Chem & Chem Biol (Level 2)	Spring					
BMOL20070	Biomolecular Lab Skills 2	Spring					
BMOL20090	Molecular Genetics & Biotech	Autumn					
BMOL20110	Biomolecular Science	Autumn					
PHAR20040	Pharmacology: Biomedical Science	Spring					
EDUC20020	Science & Maths Pedagogy	Spring					
EDUC20030	Key Ideas in Education	Autumn					
ACM10100 [1]	Differential & Difference Equations	Spring					
MST20070	Multivariable Calculus	Autumn					
MST20040	Analysis	Spring					
MST20010	Algebraic structures	Autumn					
STAT20110	Probability Theory	Autumn					

[1] If ACM10060 was not taken in Stage 1, then ACM10100 must be taken in Stage 2

Table 5 Core modules required for Stage 2 Mathematical, Physical & Geological Sciences (MPG) degree in DN200

Core (taken in Stage 2)
Programme core (taken in Stage 1 or 2)
Programme core (taken in Stage 2 or 3)
Programme Core for all Stage 2 Physics if PHYC10250 completed in Stage 1

Code	Title	Trimester	GEOL	Maths, Computer Science, and Education	Maths	ACM	FM	Stats	Physics	Theoretical Physics	Astron. & Space	Maths, Physics, and Education	Maths, ACM, and Education	
GEOL20200	Earth Structure and Geodata	Autumn												
GEOL20250	Crystals to Sedimentary Rocks	Autumn												
GEOL20210	Field Geology and Mapwork	Spring												
MATH20060	Calculus of Several Variables	Autumn												
ACM20030	Computational Science	Autumn												
ACM20150	Vector Calculus	Spring												
ACM20050	Classical Mech. & Special Rel.	Autumn												
ACM20060	Oscillations and Waves	Spring												
ACM10060	Applications of Differential Equations	Spring												
COMP20250	Introduction to Java	Autumn												
COMP10040	Introduction to Comp. Architech.	Autumn												
COMP10050	Software Engineering Project 1	Spring												
COMP20280	Data Structures	Spring												
ECON10720	Microeconomcs for Business	Spring												
FIN20010	Principals of Finance	Autumn												
MATH10320	Mathematical Analysis	Spring												
MATH10040	Numbers & Functions	Autumn												
MATH20300	Linear Algebra 2 (Math Sci)	Autumn												
MATH20310	Groups, Rings and Fields	Spring												
STAT20100	Inferential Statistics	Spring												
STAT20110	Introduction to Probability	Autumn												
STAT20180	Bayesian Analysis	Spring												
STAT20230	Modern Regression Analysis	Autumn												
PHYC20100	Thermo & Stat Physics	Autumn												
PHYC20020	Introductory Quantum Mechanics	Autumn												
PHYC20040	Exploring the Solar System	Spring												
PHYC20060	Methods for Physicists	Spring												
PHYC20080	Fields, Waves and Light	Autumn												
PHYC20090	Electronics and Devices	Spring												
PHYC10050	Astronomy & Space Science	Autumn												
PHYC10250	Thermal Physics and Materials	Spring												
EDUC20020	Science & Maths Pedagogy	Spring												
EDUC20030	Key Ideas in Education	Autumn												

SCIENCE STAGE 3

SCIENCE (DN200)

INFORMATION ON PROGRESSION TO STAGE 3 SCIENCE

Students entering Stage 3 in September 2022 select their Stage 3 majors online in August 2022, at the same time as module registration. All subjects are available to choose online**.** All students are required to book a start time for registration in early August. An email is sent to students from UCD Registry to confirm the dates and process for registration.

If a subject is oversubscribed, the Science Office checks a student results and GPA following the Spring Trimester Grade Approvals Process and students are then allocated to the subject according to highest ranking. Students then choose their option and elective modules when online registration is available in August.

Students will be guaranteed one subject from within their chosen subject stream (i.e. one subject from within the groups BBB, CCS or MPG). Stage 2 students will be given more detailed advice on this process at an Advisory Session in the Spring Trimester of the 2022-2023 academic year.

The satisfactory completion of the requirements of Stage 3 and **achieving a minimum GPA of 2.48 will allow a student to proceed into their allocated major in Stage 4.** Students who complete Stage 3 with a GPA of 2.47 or below, will graduate with a BSc (General Science) Degree. **Students who have completed Stage 3 will not be permitted to replace or substitute modules with a view to raising their GPA**. The BSc (General Science) degree is a level 8 Honours degree.

For information: students who opt to exit from their degree at the end of Stage 3, and graduate with a BSc (General Science) degree, **will not be eligible** to return to Stage 4 of their degree at a later date.

Please Note: the maximum length of time to complete Stages 3 & 4 is 6 years in total.

Joint Major Degrees: For the academic year 2022-23, Joint Major Degrees are only available in the following subject areas and **require the approval of the relevant Heads of Subject**:

For students in the School of Mathematics and Statistics joint majors are available in any combination between the following subjects:

- Applied & Computational Mathematics
- Mathematics
- Statistics

Joint Major Degrees may be available in:

- Physics with Mathematics or Statistics

CHANGE OF MIND:

Should you wish to change your choice of subject areas once the allocation of places has been made, you should seek advice from the Science Office. You **may** be able to change your selection of subject areas but the choices available to you may be limited as some majors have a limited number of places.

Degree GPA Calculation:

The final degree GPA is based 70% on the final year and 30% on the penultimate year. For a four-year degree it is 70:30 based on Stage 4: Stage 3. Students who graduate on completing Stage 3 with a BSc (General Sciences) Degree will have their degree GPA based 70% on Stage 3 and 30% on Stage 2. Students considering an international exchange for one or two trimesters should refer to the Degree GPA Calculation website.

In the BAFS programme the final degree GPA is calculated on the unweighted GPAs of the final and penultimate stages of the programme and based on modules, including elective modules that the student completes and passes to satisfy the credit requirements of those stages.

PLEASE NOTE:
Students who opt to exit from their degree at the end of Stage 3, and graduate with a BSc (General Science) degree, will not be eligible to return to Stage 4 of their degree at a later date.

STAGE 3 REPEAT STUDENTS

Students who earn 50 or 55 credits after a full attempt at Stage 3 of the degree *may* be able to progress to Stage 4 carrying these failed modules. In order to do this, it must be clear that the student was in a position to achieve the required GPA of 2.48 even with the minimum passing grade achieved in their failed modules. A student who earns 50 or 55 credits but is not in a position to clearly achieve a GPA of 2.48 upon completing Stage 3, will be advanced to a repeat attempt at Stage 3 in the following academic year. The Science Office will advise students who have earned 50 or 55 credits in Stage 3, after the release of the Spring Trimester examination results, whether they have progressed to Stage 4 of their programme or whether they are returning to a repeat attempt at Stage 3 of the degree.

If you complete Stage 3 with a GPA of 2.47 or below, you will graduate with a BSc (General Science) Degree. <u>Once you have completed Stage 3 you will not be permitted to replace or substitute modules with a view to raising your GPA.</u>

Although a student may take 'Next Stage' modules if they are carrying more than 10 credits from the preceding stage, students who have not formally progressed from Stage 3 are strongly advised against doing so if they have not achieved the required GPA. Enrolling to Stage 4 modules does not remove the requirement for a minimum Stage 3 GPA and fees spent on Stage 4 modules cannot be refunded to students who do not achieve the Stage 3 GPA required to progress into Stage 4.

STAGE 3 SUBJECTS (DN200)

BIOLOGICAL, BIOMEDICAL AND BIOMOLECULAR SCIENCES (DN200BBB)

Biochemistry & Molecular Biology
Cell & Molecular Biology
Environmental Biology
Genetics
Microbiology
Neuroscience
Pharmacology
Physiology (Single Major)
Physiology (Joint Major)
Plant Biology
Zoology
Biology, Mathematics & Education (Stream A)
Biology, Mathematics & Education (Stream B)

CHEMISTRY AND CHEMICAL SCIENCES (DN200 CCS)

Chemistry
Medicinal Chemistry & Chemical Biology
Chemistry with Environmental & Sustainable Chemistry
Chemistry with Biophysical Chemistry
Chemistry, Mathematics & Education

MATHEMATICAL, PHYSICAL AND GEOLOGICAL SCIENCES (DN200 MPG)

Geology
Physics (Single Major)
Physics (Joint Major)
Physics with Astronomy & Space Science
Theoretical Physics
Applied & Computational Mathematics (Single Major)
Applied & Computational Mathematics (Joint Major)
Financial Mathematics
Mathematics (Single Major)
Mathematics (Joint Major)
Statistics (Single Major)
Statistics (Joint Major)
Physics, Mathematics & Education
Applied Mathematics, Mathematics & Education
Computer Science, Mathematics & Education

NOTE. Students taking subjects for which **SCI30080 Professional Placement – Science**, is listed as a Stage 4 module **need to register their interest in taking this module at the beginning of Stage 3**, as it will be necessary to arrange the internship during Stage 3.

PLEASE NOTE: Students who opt to exit from their degree at the end of Stage 3, and graduate with a BSc (General Science) degree, **will not be eligible** to return to Stage 4 of their degree at a later date. See Academic Regulations 5.15

SCIENCE STAGE 4

SCIENCE (DN200)

REGULATIONS FOR STAGE 4 SCIENCE STUDENTS

UCD Registry will be informed of your designated subject area and you will be automatically enrolled to the core modules. The number of core modules can vary from subject to subject. You will then need to select the appropriate optional modules required for your major(s). **It is your responsibility to ensure that you are correctly registered.**

Stage 4 students should contact their School Office for details of timetables, research projects etc. as local arrangements are in place in each School.

Please Note: the maximum length of time to complete Stages 3 & 4 is 6 years in total.

Degree Classification

The BSc Programme Examination Board will classify the overall award to each graduate of an Honours Bachelors degree based on a degree GPA; for Stage 4 students this is calculated based on 30% for Stage 3 and 70% for Stage 4.

The Degree Award classification in Honours Bachelor degrees uses the following classes of Honours:-
First Class Honours, Second Class Honours Grade 1, Second Class Honours Grade 2 and Pass. The decision of the Programme Board on the award classification will be based on the relevant GPA according to the following scheme:-

GPA	Award
Greater than or equal to 3.68	First Class Honours
From 3.08 to 3.67 inclusive	Second Class Honours Grade 1
From 2.48 to 3.07 inclusive	Second Class Honours Grade 2
From 2.00 to 2.47 inclusive	Pass

STAGE 4 SUBJECTS (DN200)

Applied & Computational Mathematics (Single Major)

Applied & Computational Mathematics (Joint Major)

Biochemistry & Molecular Biology

Cell & Molecular Biology

Chemistry

Chemistry with Biophysical Chemistry

Chemistry with Environmental & Sustainable Chemistry

Environmental Biology

Genetics

Geology

Mathematics (Single Major)

Mathematics (Joint Major)

Biology, Mathematics & Education (Stream A)

Biology, Mathematics & Education (Stream B)

Computer Science, Mathematics & Education.

Chemistry, Mathematics & Education

Applied Mathematics, Mathematics & Education

Physics, Mathematics & Education

Medicinal Chemistry & Chemical Biology

Microbiology

Neuroscience

Pharmacology

Physics (Single Major)

Physics (Joint Major)

Physics with Astronomy & Space Science

Physiology (Single Major)

Physiology (Joint Major)

Plant Biology

Statistics (Single Major)

Statistics (Joint Major)

Theoretical Physics

Zoology

UCD Science Office
UCD Science Office
Room E1.09, First Floor,
UCD O'Brien Centre for Science,
University College Dublin, Belfield,
Dublin 4.

+353 1 716 2120/2375/2365/2684/2355/2356
Science Contact Form: https://www.ucd.ie/science/contact/askscience/
www.ucd.ie/science

University College Dublin
www.ucd.ie/science
facebook.com/UCDScience
@UCDScience