



Maynooth University Department of Biology

First Year
Handbook
2024-2025



Maynooth University Biology Department:

Aims of the department

To enhance students' knowledge and understanding of important concepts in the Biological Sciences and to develop their analytical, practical and communication skills and appreciation of environmental and other bioethical issues.

Our department's commitment to equality, diversity, and inclusion:



The Maynooth University Biology department is committed to equality, diversity and inclusion. We are proud to have been the first department in the University to receive an externally validated Athena Swan Silver Department Award for our work toward promoting gender equality, diversity and inclusion within the Department of Biology.

Our goals in this area include supporting and advancing women's careers in Biology, promoting work-life balance in the department and address any gender equity or diversity issues within the department. We look forward to engaging with all members (students and staff) of the department as we implement our Gender Equality Action Plan. As part of this we will continue to seek input from the student population (through surveys and focus groups) and will endeavor to keep you informed of our progress in this area.

For more information on the Department of Biology's Gender Equality Action Plan, please see <https://www.maynoothuniversity.ie/biology/athena-swan> or contact Dr Mark Robinson (Biology Athena Swan Chair): Mark.Robinson@mu.ie

Biology Department Athena SWAN Committee.

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INFORMATION FOR FIRST YEAR STUDENTS 2024-2025

Please read the information in this handbook carefully and keep this document to hand, so that you can refer to it during the year.

On behalf of the Department of Biology we would like to welcome you to Maynooth University and wish you well with your studies. We hope you will enjoy the time spent in the Department of Biology.

Dr Jim Carolan
First Year Coordinator

Calendar 2024 – 2025

FIRST SEMESTER

Monday 9th September	First-Year online Registration opens
10th & 11th & 16th-20th September	First Year Orientation Events
Monday 23rd September	Lectures commence
Thursday or Friday 3rd or 4th October	First Biology Practical
Monday 28th October to Friday 1st November	Study Week
Monday 4th November	Resumption of Lectures
Friday 20th December	Conclusion of First Semester Lectures
Monday 23rd December to Friday 3rd January	Christmas Vacation
Monday 6th January to Thursday 9th January	Study Period
Not before Friday 10th January	Examination period commences

SECOND SEMESTER

Tuesday 3 rd February	Lectures resume
Monday 17 th March to Friday 21 st March	Study Week
Monday 21 st April to Friday 25 th April	Easter Vacation
Monday 28 th April	Resumption of Lectures
Friday 9 th May	Conclusion of Second Semester Monday
Monday 12 th to Thursday 15 th May	Study Period
Not before Friday 16 th May	Examination period commences

Students can change their **First Semester Selections in the first FOUR weeks of Semester 1 and in the first TWO weeks of Semester Two for all Second Semester Selections.**

Changes **will not be made after these deadlines** and students will have to take the modules; they had initially registered for on the University System.

UNIVERSITY SUPPORTS AND SERVICES

Academic Advisory Office

The Academic Advisory Office offers a convenient first point of contact for students who wish to seek advice or assistance with their general experience of University life. The office provides an ombudsman-like role for students who may be encountering difficulties in their programme of study.

[Academic Advisory Office](#)

Examination Office

The Examinations Office is part of the University Registry and administers the examination timetable. It is responsible for the central administration of the University written examinations. The academic year is semesterised with examinations held in Semester One (January) and Semester Two (May) with a Supplemental/Resit autumn session in August.

[Examination Office](#)

Student Health Centre

The Student Health Centre is an acute care/advisory service. The service is envisaged as an addition to the student's own family doctor or specialist medical service. It operates within resource constraints so certain service limitations apply. Students should continue to attend their own general practitioner.

[Student Health Centre](#)

Student Services

Student Services is an integral part of the University community, enabling the promotion and development of its educational mission. Using a holistic approach, we offer a range of clearly defined services to support and empower students to achieve their personal and academic potentials and so enhance their life's journey. We strive to create a community which is open and caring and where diversity is expected and respected."

[Student Services](#)

Maynooth Access Programme

The Maynooth University Access Programme (MAP) encourages under-represented groups to enter third level and provides these groups with support through their time at Maynooth. These groups include [under-represented school leavers](#), [mature students](#), [students with disabilities](#) and members of the Irish Traveller community.

[Maynooth University Access Programme](#)

FSE Equality, Diversity and Inclusion (Committee)

The Faculty of Science and Engineering Equality, Diversity and Inclusion (EDI) Committee, are delighted to announce a series of EDI online training opportunities that are available to all students. EDI training is a potent tool for increasing awareness, enhancing comprehension, and equipping individuals with the skills required to both implement and advocate for fairness, respect, and the celebration of our differences.

How to Get Involved:

Participation in online EDI training initiatives is open to all students. The [Equality Office](#) has shared a helpful list of EDI-related online courses / training sessions at Maynooth University and highlighted who they are available to.

Training	Location	Staff / Students?
EDI in HE & Let's Talk About Race	Moodle	Available to staff and students at MU
Consent at MU – Preventing Sexual Violence & Harassment	Moodle	Available to staff and students at MU
Sexual Health Maynooth University (Student link) Staff Courses Maynooth University (Staff link)	Moodle	Available to staff and students at MU
Disability Awareness Training – National Disability Authority	Online	Open access

If you have any questions or require additional information, please do not hesitate to contact the Universities EDI Committee at (fse.admin@mu.ie).

Map of Campus [Campus Maps](#)

MU LIBRARY: UNDERGRADUATE GUIDE

Welcome to Maynooth University! We look forward to meeting you during your studies, whether that's online or in-person.

Library staff will help you with any questions you have about accessing books and reading material.

MU Library will be essential to you for:

- finding the right **e-books** and **online material** to help you study & write your assignments and essays,
- borrowing physical **books**,
- short, free **online tutorials & quizzes** that will help you improve your information skills,
- approachable **library staff** who will help you find what you are looking for, and
- booking a [group study room](#) when you are working on projects with fellow-students.

Best thing of all? All the resources above are **FREE to use** when you are a student in MU!

There's also a dedicated [Biology subject guide](#) on our webpage that we recommend you use and bookmark, because we highlight new Biology-specific material and news regularly in this space for undergraduates, postgraduates and academics. We've developed a "[New2MU](#)" link that contains lots of information specific to those starting out in MU for the first time, from undergraduates to postgraduates.

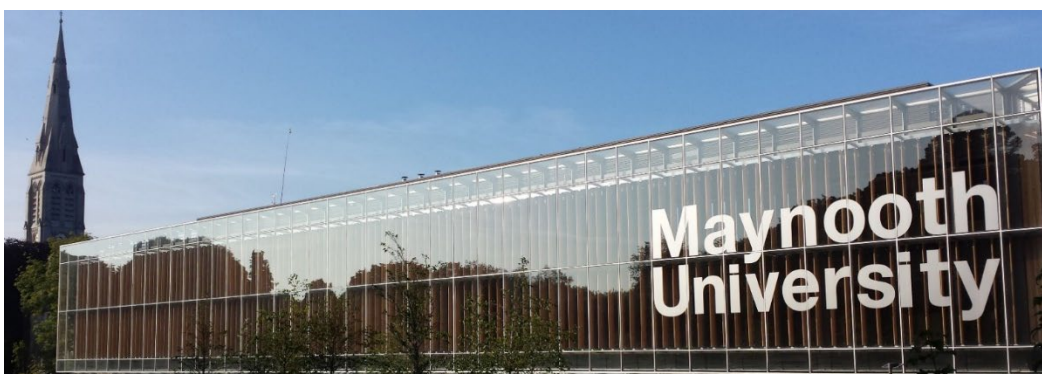


Fig. 1: Exterior of MU Library

Start Here: Our Library Homepage



Visit our library homepage at <https://www.maynoothuniversity.ie/library>. It's a great starting point for:

- Up-to-date library access information
- Details on using our services, both on and off-campus

- Information skills training classes (LIST & other sessions)
- Support for your studies and assignments

IMPORTANT! Use your MyCard (student card) to access the library and borrow books.



For more information, look at our guide “Using the Library” here <https://bit.ly/3LOslGU> or ask us for a demo.

Your **MyCard** (student card) entitles you to access the library and to borrow books. Click the “Using the Library” tab (see Fig. 2) on the library homepage, for more information.



Need Help? We're Here for You! If you're having trouble finding what you need, our library staff are ready to help. *[Photo by Daniel Balteanu]*

Whether you're on campus or off, you can:

- Visit the **Library Information Desk** on the ground floor of the library
- Use the live “Library Chat” box on our [homepage](#)
- Fill out our “[Online Enquiry Form](#)” on the left side of our homepage

Explore Our Study Spaces

The MU Library, located on the South Campus, across the road from the TSI building, offers various study spaces to suit your needs:

- **Ground Floor:** Open-access area before the turnstiles, where you can eat, drink, and chat, with over 50 laptops and print facilities.
- **Levels 1 and 2:** Quieter areas with [bookable group study rooms](#), a flexible learning space and a silent study room.



Check out our spaces ahead of time with our VR Tours and Exhibitions here: <https://bit.ly/3WLU41>

Find the Right Resources



Using the correct information source is crucial for your success. Each subject has a dedicated *Subject Guide* on our website. These guides, available here: <https://bit.ly/3Sub84D> include recommended books, databases, reference styles, online tutorials, and more. There's contact information for our *Teaching & Learning Librarians*, if you need more information on your topic.

Tech and Tools at the Library

We offer various technological resources, including:

- **Laptop Loans:** Borrow a laptop from the laptop-bank opposite the library desk.
- **Ground Floor Print Hub:** Multifunction printers available for all your print jobs.
- **3D Printing:** Available for free student and staff use; ask at the Information Desk.
- **Charging Stations:** For recharging your devices quickly.
- **Short Story Dispenser:** For a quick, fun read.
- **Wellness Zone:** Try out our 3 Energy Pods & Cubbie on Level 1, for rest and relaxation.



You can also suggest up to 5 books a year for the library to order here: <https://bit.ly/4dcxLYj>

IT Services

IT Services are available at the Library Information Desk during service hours to help with any IT issues, including photocopying.

Refreshments

There is a Starbucks Café found on the ground floor of the library, plus vending machines and water fountains available in the library.

Stay Connected and Informed

Keep an eye on the screens in the library for events. Follow us on social media for updates, tips and events throughout the year:

- **Instagram:** @library_mu
- **Facebook:** @MaynoothUniLibrary
- **X:** @mu_library

We wish you every success in your studies and look forward to seeing you soon!

Useful Links and Contacts

- **Library Homepage:** <https://www.maynoothuniversity.ie/library> 
- **Using the Library:** <https://nuim.libguides.com/library-services/usingthelibrary> 
- **A-Z Subject Guides:** <https://nuim.libguides.com/> 
- **Book a Group Study Room:** https://nuim.libcal.com/booking/MU_GroupStudyRooms 
- **Online Tutorials:** <http://nuim.libguides.com/list-online>

Programme Advisory Office

For Programme choices and options information

The Programme Advisory Office, within the Office of the Dean of Teaching and Learning, is available to advise you on any choices you might have to make related to your programme including subject choice. The Programme Advisory Office acts as a guide to students as you navigate your own way through your programme options.

The Programme Advisory Office can be contacted via

Email: programme.choices@mu.ie

Telephone: 01 474 7428

Please see their website for information about meeting a member of the Programme Advisory Team:

<https://www.maynoothuniversity.ie/programme-advisory-office>

Timetables 2024/2025

[1st Year timetable](#)

DEPARTMENT OF BIOLOGY STAFF CONSULTATION TIMES

Teaching Staff	Phone ext*	Room	E-mail	Consultation Time
Prof. Paul Moynagh <i>Head of Department</i>	6105	B3.15	fidelma.byrne@mu.ie	By appointment only
Dr. Özgür Bayram	6879	2.31	ozgur.bayram@mu.ie	Tuesday 11.00-13.00
Dr. Marion Butler	3856	B3.18	marion.butler@mu.ie	Monday 11.30-13.30
Dr. Jim Carolan	6367	2.29	james.carolan@mu.ie	Monday 11.00-14.00
Dr. Noreen Curran	3834	1.18	noreen.curran@mu.ie	Friday after lecture
Dr. John Devaney	7496	2.27	john.devaney@mu.ie	Wednesday 11.00 - 13.00
Dr. Tara Dirilgen	7261	F2	tara.dirilgen@mu.ie	Thursday 14:00-16:00
Dr. Paul Dowling	6368	2.35	paul.dowling@mu.ie	Tuesday 11.00-13.00
Prof. Sean Doyle	3858	1.24**	sean.doyle@mu.ie	Tuesday 10.00-11.30
Prof. Karen English	6290	B3.17	karen.english@mu.ie	Monday 14.00-16.00
Dr. David Fitzpatrick	Teams	1.26**	david.fitzpatrick@mu.ie	Monday 10.00-11.00
Dr. Emmanuelle Graciet	6255	B1.25	emmanuelle.graciet@mu.ie	Tuesday 10.00-12.00
Dr. Andy Hogan	6118	B2.16	andrew.e.hogan@mu.ie	Monday 11.00-12.00
Dr. Grace Hoysted	Teams	2.25	grace.hoysted@mu.ie	Tuesday 10.00-12.00
Prof. Kevin Kavanagh	3859	2.39	kevin.kavanagh@mu.ie	Monday 14.00-16.00
Dr. Lorna Lopez	Teams	2.36	lorna.lopez@mu.ie	Monday 10.00-11.30
Dr. Abigail Maher	6117	F6	abigail.maher@mu.ie	Tuesday 11.00-12.00
Dr. Joanne Masterson	6369	B2.17	joanne.masterson@mu.ie	Monday 14.00-16.00
Dr. Eoin McNamee	6148	B2.19	eoin.n.mcnamee@mu.ie	Monday 10.00-11.30
Dr. Conor Meade	6386	2.34	conor.meade@mu.ie	Monday 12.00-13.00
Dr. Sinead Miggin	3855	B3.14	sinead.miggin@mu.ie	Tuesday 12.00-13.00
Dr. Dania Movia	Teams	F1	dania.movia@mu.ie	Tuesday 12.00-13.00
Dr. Jackie Nugent	3857	B1.23	jackie.nugent@mu.ie	Tuesday 10.00-12.00
Dr. Shirley O'Dea	6480	F7	shirley.odea@mu.ie	Monday 10.00-11.30
Dr. Diarmuid O'Maoileidigh	Teams	B3.08	diarmuid.s.omaileidigh@mu.ie	Monday 10:00-12:00
Prof. Kay Ohlendieck	3842	2.33	kay.ohlendieck@mu.ie	Monday 12.00-13.00
Dr. Rebecca Owens	3839	2.30	rebecca.owens@mu.ie	Wednesday 10.00-12.00
Dr. Mark Robinson	Teams	B1.21	mark.robinson@mu.ie	Wednesday 14.00-16.00
Dr. Martina Schroeder	6853	B2.18	martina.schroeder@mu.ie	Monday 10.00-11.00
Prof. Fiona Walsh	7246	B1.24	fiona.walsh@mu.ie	Thursday 11.30-12.30

*Phone prefix: (01) 708 **except** numbers in **red which are prefixed by (01) 474...**

**=Located on ground floor Callan Building; F=Located in Foyer, 1st floor Callan Building; B=Biosciences & Electronic Engineering Building

The times when staff are normally available for consultation are given above. Appointments for other times must be arranged with individual lecturers. Staff with Teams listed under Phone No. can be contacted via Microsoft Teams. Administrative Offices 2.40, 2.41 open daily: 9.30am-12.30pm; 2.30-4.30pm e-mail: biology.department@mu.ie

Programme Coordinators:

OMNIBUS SCIENCE:

BIOTECHNOLOGY:

SCIENCE EDUCATION:

BIOLOGICAL & BIOMEDICAL SCIENCES:

BIOLOGICAL & GEOGRAPHICAL SCIENCES:

INTERNATIONAL COORDINATOR

MAP (MATURE AND ACCESS STUDENTS) ACADEMIC ADVISOR:

POSTGRADUATE COORDINATOR:

MSC IN IMMUNOLOGY & GLOBAL HEALTH:

Dr. Jackie Nugent

Dr. Shirley O'Dea

Dr. Jackie Nugent

Prof. Kevin Kavanagh

Dr. Conor Meade

Dr. Paul Dowling

Dr. Joanne Masterson

Dr. Martina Schroeder

Dr. Sinead Miggin

For **urgent** matters please contact biology.department@mu.ie to make an appointment with the relevant Programme Coordinators.

First Year Module Coordinators:

CODE	NAME	Coordinator	e-mail address
BI101	From Cell to Organism	Jim Carolan	James.Carolan@mu.ie
BI102	Biological Function and Diversity	Mark Robinson	Mark.Robinson@mu.ie
BI103	Human Biology	Kay Ohlendieck	Kay.Ohlendieck@mu.ie
BI108	Mechanisms of Human Disease	Marion Butler	Marion.Butler@mu.ie

First Year Committee: will meet at least once each term. Also, the Biology department's gender equality steering committee may engage with the student reps in focus groups during the academic year.

The members will be:

- Kevin Kavanagh, Jackie Nugent, Jim Carolan, Mark Robinson
- 1 postgraduate demonstrator
- 1 technician
- 6 elected first year student academic reps (MSU to hold elections)
 - 2 Science
 - 1 Biotechnology
 - 2 Biological Sciences
 - 1 Science Education
 - 1 Pharmaceutical & Biomedical Science

Problems and matters of interest will be discussed.

If you have issues which you would like to be considered, you should contact your representative.

DEPARTMENT OF BIOLOGY STAFF RESEARCH INTERESTS

Name & Qualifications	Key Words	Research Interests
Dr O. Bayram, MSc PhD	Secondary metabolism, Fungal foods, Mycotoxins, Fungal development, Cell signalling, Epigenetics, Environmental remediation	https://www.maynoothuniversity.ie/biology/our-people/ozgur-bayram#2
Dr M.P. Butler BSc PhD	Ovarian Cancer, Mechanistic insight into diseases, Toll-like Receptor Signalling, sex differences in immune responses.	https://www.maynoothuniversity.ie/biology/our-people/marion-butler#2
Dr J.C. Carolan B.A. (Mod) PhD	Proteomics, Mass Spectrometry, Genomics, Molecular Biology, Sustainable Agriculture, Aphids, Bumblebees, Crop-pest Interactions, Pesticides	https://www.maynoothuniversity.ie/biology/our-people/james-carolan#2
Dr J. Devaney BSc PhD	Ecology, Forest Ecology, Climate Change, Biodiversity-Ecosystem Function, Invasive species	https://www.maynoothuniversity.ie/biology/our-people/john-devaney#2
Dr. T. Dirilgen BSc PhD	Ecology, Biodiversity (aboveground and belowground), Soil-Plant-Pollinator interactions, Soil biology and ecology, Sustainability	https://www.maynoothuniversity.ie/people/tara-dirilgen
Dr P. Dowling BSc PhD	Oncoproteomics, Biomarkers, Detection, Biofluids, Mass Spectrometry	https://www.maynoothuniversity.ie/biology/our-people/paul-dowling#3
Professor S. Doyle BSc PhD	Disease diagnosis, Antimicrobial resistance, <i>Aspergillus fumigatus</i> , protein mass spectrometry, proteomics, nonribosomal peptide synthesis, Disease diagnosis, immunoassays and enzymology.	https://www.maynoothuniversity.ie/biology/our-people/sean-doyle#2
Professor K. English MSc PhD	Cellular therapy, mesenchymal stem cells, immune modulation, pre-clinical models of inflammatory disease, organ transplantation, acute respiratory distress syndrome, asthma, gene therapy, muscular dystrophy	https://www.maynoothuniversity.ie/biology/our-people/karen-english#2
Dr D.A. Fitzpatrick BSc PhD	Computational Biology, Bioinformatics, Genome Evolution, Phylogenomics, Comparative genomics, Genomics, Transcriptomics, Proteomics, Genome sequencing, Fungi, oomycetes.	https://www.maynoothuniversity.ie/biology/our-people/david-fitzpatrick#2
Dr E. Graciet MSc PhD	Protein degradation, biochemistry, plant molecular biology, plant-pathogen interactions, abiotic stresses, crop improvement	https://www.maynoothuniversity.ie/biology/our-people/emmanuelle-graciet#2
Dr A. Hogan BSc PhD	Immunology, obesity, cancer, metabolism, immunometabolism, immunotherapy	https://www.maynoothuniversity.ie/biology/our-people/andrew-hogan#2
Dr. G. Hoysted BSc PhD	Fungal Ecology, Microbial Ecology, Mycorrhizal fungi, Plants, Bacteria, Above-below ground interactions, Plant-insect interactions, Sustainability	https://www.maynoothuniversity.ie/people/grace-hoysted

Professor K.A. Kavanagh BSc PhD	<i>Aspergillus</i> , <i>Candida</i> , Fungi, Metal-cell interactions, Innate immunology, Insects, Proteomics	https://www.maynoothuniversity.ie/biology/our-people/kevin-kavanagh#3
Dr L.M. Lopez BA PhD	Genomics, Human Health, Circadian Rhythms, Sleep, Neurodevelopmental Conditions.	https://www.maynoothuniversity.ie/biology/our-people/lorna-lopez#2
Dr A.M. Maher BSc PhD	Entomopathogenic nematode, microbes, symbiosis, biodiversity	https://www.maynoothuniversity.ie/biology/our-people/abigail-maher#2
Professor B.P. Mahon BSc PhD	Cell Biology, Immunology, microbiome/immune interaction	https://www.maynoothuniversity.ie/biology/our-people/bernard-mahon#2
Dr J. Masterson BSc PhD	Allergy, Inflammation, Epithelial Cell Biology, Stem Cells, Fibrosis, Mucosal Barrier, Cellular Metabolism	https://www.maynoothuniversity.ie/biology/our-people/joanne-masterson#2
Dr E. McNamee BSc MSc PhD	Autoimmunity, Mucosal Immunology, Translational Immunology, Chemokines, microRNAs	https://www.maynoothuniversity.ie/biology/our-people/eoin-mcnamee#2
Dr C. Meade BSc PhD	Plant & Soil Ecology; Molecular Ecology; Phylogeography, Biogeography & Population Genetics; Sustainability	https://www.maynoothuniversity.ie/biology/our-people/conor-meade#1
Dr S. Miggin MSc PhD	Innate immunity, toll-like receptors, inflammation, Type-2-Diabetes, bovine reproduction	https://www.maynoothuniversity.ie/biology/our-people/sinead-miggin#2
Dr D. Movia MSc PhD	In vitro alternatives to animal models, non-animal preclinical research, new approach methodologies, lung cancer, respiratory research, nanomedicine	https://www.maynoothuniversity.ie/faculty-science-engineering/our-people/dania-movia
Professor P. Moynagh B.A. (Mod) PhD	Molecular Immunology, Inflammation, Inflammatory Diseases, Signal Transduction,	https://www.maynoothuniversity.ie/biology/our-people/paul-moynagh#3
Dr J.M. Nugent MSc PhD	Plant molecular biology, evolution and development	https://www.maynoothuniversity.ie/biology/our-people/jackie-nugent#3
Dr S. O’Dea BSc PhD	Cell therapy, cell engineering, cancer research	Shirley O’Dea Maynooth University
Dr D. O’Maoileidigh BSc PhD	Plant development, flower development, fruit development, photosynthesis, transcription factors, genomics	https://www.maynoothuniversity.ie/people/diarmuid-omaoileidigh
Professor K. Ohlendieck DipBiol PhD DSc	Skeletal muscle biology, protein biochemistry, proteomics, biomarker discovery	https://www.maynoothuniversity.ie/biology/our-people/kay-ohlendieck#3
Dr N. Curran BSc PhD	Plant Biology	https://www.maynoothuniversity.ie/people/noreen-curran
Dr R. Owens BSc PhD	Pathogenic fungi, secondary metabolites, proteomics, antimicrobial agents, food proteins	https://www.maynoothuniversity.ie/biology/our-people/rebecca-owens#3
Dr M. Robinson BBioMedSc PhD	Cytotoxic natural killer cells, liver disease and cirrhosis, chronic inflammation, glycosylation of lymphoid immune cells	https://www.maynoothuniversity.ie/biology/our-people/mark-robinson#2
Dr M. Schroeder BSc PhD	Host-Pathogen interactions, Pattern recognition receptor signaling, Regulation of gene expression, RNA Biology	https://www.maynoothuniversity.ie/biology/our-people/martina-schroeder#2
Professor F. Walsh BSc PhD	Antibiotic resistance, microbiomes, infectious diseases, bacteriology, metagenomics	https://www.maynoothuniversity.ie/biology/our-people/fiona-walsh#2

COURSES

Personal Laptops

The delivery of all first-year modules will require all students to have their own laptop (a Windows based laptop is advisable) for practical assignments and quizzes.

For information on a number of schemes to provide you with a laptop or financial assistance towards the purchase of one, please contact the Maynooth University Access Office access.office@mu.ie

Maynooth Student Services also run a **Laptop Loan Scheme**. For more details, please visit their [website](#).

Studying Biology for the first time

It is not necessary to have studied Biology previously, as the approach taken in the Department of Biology is different from that used at school. If difficulties arise because of unfamiliarity with technical language, then one of the following should be consulted:

- Lawrence, E. (Ed) (2016). *Henderson's Dictionary of Biology** (16th Edition), Pearson Education Ltd.
- Thain, M. *et al.* (2005). *Dictionary of Biology** (11th Edition). Penguin Books Ltd., London.
*Available in the College Bookshop

Please note that the digital resources that are used in BI101 and BI102 are designed to build your levels of understanding and knowledge from an introductory level up.

Course structure

First year biology modules typically comprise **3 lectures**, and either **one three-hour practical session** or one **workshop** every week.

Your timetable for the year, location of lectures and practicals is available at webpage: <https://www.maynoothuniversity.ie/biology/timetable-0>

A brief outline of the courses is given on pages 13 and 14. However, for a full description including Learning Outcomes, please check the course descriptions on the Maynooth University webpage: and search for your module under “prospective students” <http://www.maynoothuniversity.ie/courses/>

Engagement

In order to complete first year biology successfully it is **essential** to work hard, attend or stream all classes (lectures, practicals and tutorials) and complete all continual assessment conscientiously.

Lectures provide the framework for the course and exams will be based on them. Lecture handouts will be posted to Moodle in advance of your lectures.

It is necessary to read through your lecture as soon as possible after each lecture. If there is anything you do not understand please consult a textbook or ask your lecturer. Supplement your notes with extra information obtained by consulting books. Lecturers who will be setting and marking the exams are

more impressed with an answer with evidence of extra reading than one which only restates the lecture notes.

Some modules (BI101, BI102) adopt digital systems to provide additional learning tools and resources. Engaging with these systems is an integral component of how we teach Biology and supplement your learning beyond the standard lecture.

Books

There is a wide range of biology books available in the library, many of which provide excellent background material for the course.

The core course textbook in first year is **Brooker, R.J., et al. (2019) Biology (6th edition)** McGraw-Hill Publishing and all Biology students will purchase a licence to access the digital eTextBook version of this text. The licence is included in your registration fee. (See '**LABORATORY PRACTICAL ARRANGEMENTS**' section later p. 21). Hard copies of this textbook can be purchased (separately) through the University Bookshop. Previous editions and secondhand copies will have the majority of the material in the 6th edition.

Campbell's Biology (12th Edition) (ISBN-13: 978-0134093413) by Pearson is also a good reference book if you find a secondhand version. Please note that the images and text used by your lecturers may not align to those in this textbook.

On occasion handouts may be provided to supplement the lecture material.

FIRST YEAR MODULES IN BIOLOGY/BIOTECHNOLOGY/BIOLOGY & GEOGRAPHY 2024/25

BI101 FROM CELL TO ORGANISM

Topics covered include: structure of large biological molecules; basic animal and plant cell structure; cellular organelles; cytoskeleton; extracellular matrix; viral structure and function; bacterial cell structure, sporulation, growth and control of bacteria; fungal cell structure, role of yeast in brewing, fungal diseases; principles of genetics; mitosis and meiosis; patterns of inheritance; transcription and translation; mechanisms of evolution; microscopy; lab safety

Course topics consist of:

- Cell Biology
- Microbiology
- Biochemistry
- Molecular Biology
- Genetics
- Evolution

[BI101](#)

(Course given by: J. Carolan/K. Kavanagh/L. Lopez/S. O'Dea/D. Fitzpatrick)

BI102 BIOLOGICAL FUNCTION AND DIVERSITY

Major topics covered include: (i) introduction to animal evolution, anatomy and physiology; (ii) introduction to plant diversity, anatomy and physiology and (iii) introduction to ecology. The animal section focuses on the origin, characteristics and range of vertebrates, the range of adaptations present in vertebrates, the evolution of mammals, primates and humans and gives an introduction to the physiological functions necessary for life. The second part of the course focuses on plants and introduces plant diversity with an emphasis on the diversity and anatomy of flowering plants. Also discussed are plant responses to internal and external stimuli, including plant hormones. Transport of water and nutrients in plants is also discussed. The ecology section reviews succession and climax, mineral cycles and energy in ecosystems. This course covers the following topics:

- Vertebrate Structure & Function
- Animal Physiology
- Plant Anatomy & Diversity
- Plant Physiology
- Ecology

[BI102](#)

(Course given by: M. Robinson/S. Miggin/J. Devaney/D. O'Maoileidigh/G. Hoysted)

NOTE: For further information on number of practicals, content and learning outcomes for each module please refer to the course page at

<https://apps.maynoothuniversity.ie/courses/?TARGET=CS&MODE=SEARCH>

BI103 Human Biology

Human biochemistry, chemistry of the main bio-molecules. Evolutionary origins of humans, bipedalism, intelligence, hominid family tree, cultural evolution. Evolution of the human immune system, impact of environmental pressures on immune gene expression with implications for infection, vaccination and disease. The molecular basis of human genetic diseases covering single gene disorders, X-linked disorders, complex diseases, chromosomal imbalances and rearrangements and mitochondrial mutations. A brief outline on the cloning and identification of disease genes, genetic testing, gene therapy and ethics surrounding medical genetics. Human infectious disease, transmission of disease, diagnosis and treatment. [BI103](#)

(Course given by K. Kavanagh/M. Butler/F. Walsh/K. Ohlendieck/L. Lopez/E. McNamee).

BI108 Mechanisms of Human Disease

Topics covered include: basic concepts of immunology including innate and adaptive immune responses, immunodeficiency disorders, regulation of the cell cycle, cancer, basic molecular and cellular concepts of the nervous system, select neurological disorders, basic molecular and cellular concepts of chronic metabolic disorders, cardiovascular and respiratory disease, the role of the microbiome in disease. Students carry out library-based research and give a short oral presentation on a biological topic. In addition, students work in groups to research and present a poster on a biological topic. The posters are presented for public display and are assessed on content and presentation.

[BI108](#)

(Course given by M. Butler/K. Ohlendieck/K. Kavanagh/A. Hogan)

Skill enhancement courses

Literature project (BI103): In the first semester you will be given a topic to research and prepare a dissertation (or essay) upon. You may discuss the topic with the relevant staff member and fine-tune the title. The dissertation should be 2000 words in length and be submitted through Moodle [BI103](#) before **1pm on Thursday 19th December 2024**. The work should be your own and should be uploaded onto Turnitin self-check (ONLY through Moodle [BI103](#)) before submission, and checked for originality. A tutorial on how to do this will be posted on the BI103 Moodle page. You must insert a cover sheet as the first page of your final essay submission, the cover sheet is available to download from Moodle [BI103](#). Your essay will be examined and returned to you in Semester 2, with a mark which will count towards the BI103 mark.

Oral Presentation BI108: You will be required to give a short 5-10 minute oral presentation on the topic to staff members and your fellow students **towards the end of the second semester**.

Group projects: The class will be sub-divided into groups of 4 and each group will be given a Biological topic to research. You will be required to present a poster detailing your findings and be prepared to discuss the work with members of the Department when you display your poster. You should ensure you use the library and information sources on the WEB to find out about your specific topic. Marks will be awarded for the poster, which will count towards your **BI108 mark**.

Tutorials: You will be required to attend a series of tutorials presented by members of the Department. These will cover a wide range of topics and will enhance your knowledge of Biological Science. In many

cases you will be given written material to read before the tutorial so you should be prepared to ask questions and discuss the topic of the tutorial.

LATE SUBMISSION OF COURSEWORK

On occasion, a student may not be able to meet a course deadline on a **literature** project due to unforeseen exceptional circumstances. If you find yourself in this position, you may request a later submission date. The **ONLY** first year module covered by this policy is **BI103**.

If you require a later submission date, you should complete the online [Biology Department Late Submission Request Form](#) available via the [All Biology Students 2025](#) Moodle page. Please note that you will be required to upload your supporting documentation at the time of submission with the exception of illnesses of 2 days duration or less, which does not require supporting documentation.

All applications must be received 5 working days prior to the original submission date or 24 hours post submission date only in order to be considered. Submission with supporting documentation does not guarantee that an extension will be granted. Approval is at the discretion of the department. Further instructions on the process are available on Moodle.

The form should **NOT** be used to request extensions in relation to Lab Practicals, Lab Write-Ups or MCQ resits. In these cases, you should follow the procedure as outlined in the handbook and contact Teresa Redmond at Teresa.Redmond@mu.ie

The table below gives examples of instances where late submission requests may be considered.

Reason for Application	Details Needed	Supporting Documentation Needed
Medical Circumstances	<ul style="list-style-type: none"> Specify details (e.g. Illness, injury, hospital appointment, hospitalisation) 	<ul style="list-style-type: none"> Appropriate original supporting evidence must be supplied by a registered general practitioner for illnesses of 3 days or more.
Personal Circumstances	<ul style="list-style-type: none"> Specify details (e.g., family illness) 	<ul style="list-style-type: none"> Appropriate original supporting evidence must be supplied by a registered medical practitioner or other health professional.
Bereavement	<ul style="list-style-type: none"> Specify relationship (e.g., parent/guardian, grandparent, sibling, spouse, child, friend) 	<ul style="list-style-type: none"> Appropriate supporting evidence must be supplied (e.g., RIP.ie notice).
Other	<ul style="list-style-type: none"> Specify circumstances (e.g., jury duty, wedding of a sibling or other immediate family member, victim of crime; participation in a sporting/other event for MU. 	<ul style="list-style-type: none"> Appropriate original supporting evidence must be supplied.

EXAMINATIONS & CONTINUAL ASSESSMENT

1st Year Biology Prize:
Peter Whittaker Prize for best performance in 1st year Biology: Cash prize + Certificate

BI101 and BI102 Continuous assessment (CA) and module examination

BI101/BI102 will be 50% Continuous Assessment (CA)/50% Theory Exam

Provisional CA breakdown*:

- Practical Write-ups/Reports = 15%
- McGrawHill Connect LearnSmart Assignments = 5%
- Writing assignment (e.g. Module related topics) = 15%
- Learning Outcome Assessments (Biweekly quizzes) = 15%

**May be subject to minor changes*

BI101/BI102 Theory Exams:

- Exams will be in the form of an MCQ in January (BI101) and May (BI102).
- Exams will proceed on campus and in person.

Pass standards

Pass standard	40% or higher
Compensation range	Marks of at least 35%, but less than 40%
Incomplete/Not passed grades	Marks below 35%

Students that fail to achieve a pass standard can repeat the theory exam in August.

Students that fail the CA and module overall for BI101 or BI102, will be required to do continuous assessment. For these modules, supplemental continuous assessment may consist of failed/missed CA elements including LOAs, Self-Assessment Quizzes; LearnSmart and writing assignments.

Please note that students that fail the CA and module overall for BI101 or BI102, can only avail of the supplemental continuous assessment option, if they have attended at least half of the practicals & workshops for the failed module.

BI103, BI108 (Biological & Biomedical Science students only)

You are required to sit two papers in Biological Science, one in January (Module BI103) and one in the Summer (Module BI108), which will cover the ADVANCED courses. These courses include a literature project and group work as listed on page 14.

Theory – 60%

Continual Assessment – 40%

Please see the following link (under Policies & Regulations) for Marks and Standards for programmes at Maynooth University:

<https://www.maynoothuniversity.ie/exams/university-examinations-regulations-and-procedures>

THE 7 SKILLS UNDERGRADUATE WRITING PROGRAMME

Assessment of Written Assignments:

The MU Biology 7 Skills programme is a framework for learning and assessment of science writing skills, with the objective of boosting core writing skills for all students taking Biology. Applied across years 1 to 3 inclusive. The programme targets development of 7 key writing skills in two broad skills areas termed the 'Writing Process' and 'Critical Engagement'.

These are:

The Writing Process

Layout

Citation

Originality

Composition

Critical Engagement

Use of Evidence

Information Analysis

Demonstration of Understanding

The
core

guideline document for the 7 Skills programme is the *7 Skills Handbook*, and each of the 7 skills criteria are discussed in detail. This and other supporting documents are available on the **Year 1** tab in the dedicated Moodle page [MU Biology 7 Skills Home 2025](#).

Note: All students are required to read and be familiar with the guidelines in the *7 Skills Handbook*.

Written assignments in the following 1st Year modules will be assessed within the framework of the 7 Skills writing programme:

BI101 *From Cell to Organism*

BI102 *Biological Function and Diversity*

The learning objective for Year 1 of the programme is to provide a foundation in the key skills of the *Writing Process*. The learning banner for the year is 'Organise and Paraphrase', with an emphasis on core skills under the criteria *layout, citation, originality* and *composition* (See the *7 Skills Handbook* document).

A key aspect of the 7 Skills programme is the use of **grading rubrics**. For each assignment, students are presented in advance with guidelines and assessment criteria - in the form of a rubric. These rubrics are standardised, and follow the assessment framework of the 7 Skills programme, with a number of different skills criteria included each with a range of possible grading scores. Each rubric also indicates the threshold level of competency that is expected for each of the skills criteria, and grading is

measured against these thresholds. All of this information will be provided to you, in the form of the grading rubric and supporting materials, before you begin each assignment.

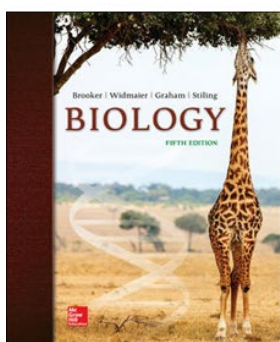
All students are required to visit the **Year 1** tab on the [MU Biology 7 Skills Home 2025](#). Here you will find details of mandatory reading, supporting documentation, and learning supports.





Note: further details on the 7 Skills Programme in Year 1 assessment will be provided in an introductory Writing Workshop, as part of **BI101**, with a second recap workshop in Semester II as part of **BI102**.

MCGRAW HILL CONNECT SYSTEM:

The Department utilises the McGraw Hill online teaching platforms Connect and LearnSmart as part of the core biology modules **BI101 and BI102**. You will be provided with a licence to the Connect system and a digital e-Textbook version of McGraw Hill's Brooker's Biology 6th Edition.

Connect is a digital learning system that will be used to support teaching and learning and through this system you will have access to question banks, animations, exercises, adaptive learning resources in addition to an **e-text version of Brooker's Biology (5th edition)**. Access to Connect will be hosted through Moodle.



DNA Extraction	Start: Sep 8, 2020 at 1:24 PM BST Due: Oct 16, 2020 at 11:59 PM BST	BI101[A] (20-21:S1) BI101[A] From Cel...		>
1.1 Levels of Biology	Start: Sep 6, 2020 at 3:05 PM BST Due: Oct 9, 2020 at 11:59 PM BST	BI101[A] (20-21:S1) BI101[A] From Cel...		>
Intro to Biology	Start: Oct 7, 2020 at 2:33 PM BST Due: Oct 9, 2020 at 11:59 PM BST	BI101[A] (20-21:S1) BI101[A] From Cel...	SB	
LOA 1	Start: Oct 12, 2020 at 1:40 PM BST Due: Oct 14, 2020 at 11:59 PM BST	BI101[A] (20-21:S1) BI101[A] From Cel...	Quiz	

This Connect system will also be used to host **LearnSmart Assignments** (a reading assignment followed by a set of questions that are chosen based on the level of your understanding of the material). Each LearnSmart Assignment will be related to your lecture and practical content for a given week. Completing these assignments will contribute to your overall continual assessment for this module. Quizzes (see below) that are assigned later in the module may not be taken until these LearnSmart Assignments have been successfully completed.

The Connect System will also be used for other types of assignments including quizzes (to help you improve your learning) or to assess your learning. **Learning Outcome Assessments** (LOAs: a quiz based on material covering the previous week's lectures and practicals) will contribute to your overall grade for this module.

More information on the Connect System will be provided to you on Moodle, in the instructional videos and during your first scheduled lecture sessions.

Registering for Connect (First Time Users)

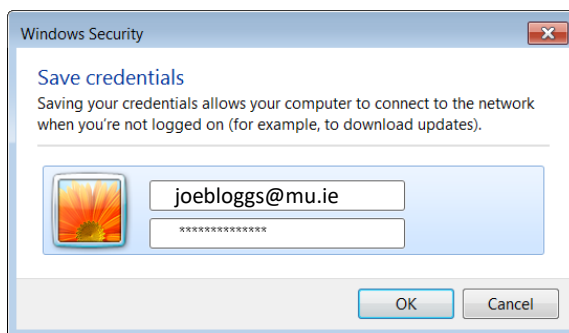
In order to access the Connect system you will need to register on their system through the Maynooth University Moodle system. Instructions will be posted to Moodle and please follow the steps for registering to the Connect system carefully.

Students that wish to obtain a hard copy of this Brooker textbook can purchase it (separately) through the University Bookshop.

STUDENT INFORMATION

Connecting to Maynooth University wireless networks:

Maynooth University along with many other institutions broadcasts the eduroam wireless signal for students and staff. Use your wireless client to connect to eduroam and when prompted enter your Maynooth username and password.



You may need to enter your credentials twice when connecting for the first time. Some users will see prompts regarding certificates and should choose the “Accept/Continue” option at this prompt.

***If you enter your username in the format of **username@mu.ie** (not an email address) your Maynooth account will allow you to connect to eduroam in other participating institutions for example in UCD, DCU, TCD and many others around the world.*

Notices: Information for students will be posted on MOODLE and can also be notified by e-mail to your mumail address. This will include information on courses, questionnaire results etc.

E-mail: You should check your Maynooth University e-mail account on a DAILY basis. Messages to individual students from Staff will normally be made via e-mail, using the student’s Maynooth University e-mail address. Delete messages regularly to ensure that your e-mail account is not over quota.

Moodle <https://moodle.maynoothuniversity.ie/> This online learning environment is accessible both on and off campus. We use it for:

- (a) Posting notices and announcements
- (b) To pass on information/resources about individual modules
- (c) Recording absence
- (d) Managing late submission requests in respect of particular modules

You will have access to all MOODLE areas relating to the modules for which you are registered as well as to the general information area entitled

- [All Biology Students 2025](#) which contains information relating to absences, late submission of coursework (if applicable) and other useful information.

COMMUNICATION GUIDELINES FOR STUDENTS

This document is designed to clarify:

- how your lecturers and module coordinators will communicate with the class
- how your lecturers and module coordinators will communicate with individual students
- how students can best communicate with lecturing staff and with each other

1. General guidelines

- You should include your name and student number in all e-mail correspondence.
- Before emailing, you should always check that your question(s) has/have not already been answered in documents, posted on Moodle and Teams, or in a previous e-mail or module announcement.
- Regarding general questions on module content, you should seek to find module information on [Course Finder](#) first.
- Unless it is an emergency, you should seek to contact your lecturers and module coordinators during normal working hours and days.
- Staff members will do their best to answer new queries within 48 hours (during working days). Please allow at least 48 hours for a reply to your e-mail before contacting the same person or a different staff member in relation to the same query. If your query has already been answered in a previous e-mail or post, it may take longer to reply to your e-mail.

2. Class announcements by lecturers and module coordinators

Class announcements can be done using three platforms:

- E-mail communication to the class. We will **always** use your MU e-mail address.
- And/or Lecturers announcements on a specific module's Moodle page.
- And/or using the Chat function in a specific module page on Teams.

Class announcements can be used by your lecturers to send reminders, but also to answer queries received by e-mail from individual students, if the query is relevant to the whole class. In this case, you may not receive an individual reply to your original e-mail.

It is your responsibility to check e-mails regularly, Moodle and Teams as well. Each of these platforms have the option of sending notifications. We encourage you to turn on these automatic notifications.

A lecturer or module coordinator may not prioritize replying to your e-mail if the answer is already available to the class.

3. Lecturing staff communication with individual students

If a query received by e-mail does not regard the whole class, lecturing staff will do their best to answer the individual student in a timely manner (e.g. within a couple of days). While we are happy to help you study and ensure that we provide an environment that promotes learning, some queries are not acceptable and cannot be answered.

What queries are NOT acceptable?

- Asking for answers or corrections to previous exam questions. This query is not acceptable, because it is your work that is assessed and so your submissions need to reflect your own writing, ideas and thoughts.
- Asking for details of calculation, answers or corrections for lab write-ups before these are handed in. This query is not acceptable, because it is your work that needs to be assessed. Practical-related

questions should be asked to demonstrators or lecturers during the lab sessions (in teaching labs or on Teams).

- Demonstrators should not be asked to provide details of calculations or to pre-correct your lab write-ups at any time. All questions to demonstrators should be asked during the lab sessions (online or in teaching labs).
- Asking for slides or lecture notes of a module that you are not registered for is not acceptable.

4. Communication among students in a class

Students in a class can use multiple 'official' platforms to communicate among themselves. We encourage these because they foster group work and mutual help. Posts and communications on different platforms (Moodle, Teams, e-mails) should be linked to the course/module and should be courteous and respectful at all times. Note that these platforms are accessible to the whole class, including lecturers.

Platforms available:

- Class discussion forum on a specific module's Moodle page
- Teams Chat on a specific module's Teams group

LABORATORY PRACTICAL ARRANGEMENTS

Location: Teaching Labs 2 & 3, Callan Building, North Campus

1ST in Person Laboratory Sessions: 3rd or 4th October 2024

A payment of €45 is required from you as a contribution towards the cost of the McGrawHill Connect System, digital e-Textbook of Brooker's Biology, practical manuals and any handouts that you will receive throughout the year.

Please pay online through "Biology Shop" any time before **Wednesday 2nd of October** with a credit or debit card: [Biology Shop](#).

If you have not paid online you will be allowed to pay cash on the day of your first practical.

Laboratory Sessions:

All Biology practicals will take place in person. These "wet laboratory" practicals will focus on core concepts and prioritise the most important aspects of the course which require hands-on experience. For each practical you will complete a workbook or report which will be submitted online to your practical demonstrator for grading.

Please do not select any tutorials or practicals for other subjects until you have been assigned your Biology practical time.

There are three lab sessions: Thursday morning (**TA 10am-1pm**), Thursday afternoon (**TP 2pm-5pm**) and Friday morning (**FA 10am-1pm**). We will assign you to **one** of these practical sessions and notify you by email/Moodle.

Once notified, you can then choose the practicals/tutorials in your other subjects that do not clash with your Biology Practical time.

Important Practical Dates

Week	First Practical Time/Date	Programme/ Group*	Activity
2	Thursday 3 rd Oct 10am-1pm	TBC	Practical 1- Lab Safety and Introduction to Microscopy
2	Thursday 3 rd Oct 2-5pm	TBC	Practical 1- Lab Safety and Introduction to Microscopy
2	Friday 4 th Oct 10am-1pm	TBC	Practical 1- Lab Safety and Introduction to Microscopy

*You will be notified of your Lab group via Moodle and by email.

NB-Once you are assigned to a lab time you cannot sign up for any activity occurring at the same time.

Please note that you will be pre-assigned to these groups in advance. You should ensure that any laboratory/tutorial choices for your other subjects do not clash with your Biology Lab.

First BI101 Lab Date 3rd/4th October Teaching Labs 2&3

Thursday Group TA-10am-1pm

- **MH201 Science: Omnibus Science students Surname Initials A-S**
- **MH222 BSc Food Science & Human Nutrition**
- **Occasional/Erasmus Students**

Thursday Group TP-2pm-5pm

- **MH201 Science: Omnibus Science students Surname Initials T-Z**
- **MH209 BSc Psychology**
- **MH204 Physics with Astrophysics**
- **MH210 BSc Pharmaceutical & Biomedical Chemistry**
- **MH602 BSc Multimedia, Mobile & Web Development**
- **MH602 BSc Computer Sci & Software Engineering**
- **MH202 BSc Biotechnology**
- **MH203 BSc Biological & Geographical Sciences**

Friday Group FA-10am-1pm

- **MH208 BSc Biological & Biomedical Sciences**
- **MH212 BSc With Education**
- **MH221 BSc Sports Science & Health**

If you have a GENUINE timetable conflict with a core module, please email Teresa.Redmond@mu.ie or biology.department@mu.ie

REQUIREMENTS FOR PRACTICALS

- If you have any issues relating to the practicals please contact Teresa Redmond, First Year Senior Demonstrator by email teresa.redmond@mu.ie. The senior demonstrator is responsible for the organisation of the practical class and coordinates practical assignments and assessments.
- Undergraduate Biology is a largely practical subject. It is **compulsory** that you attend **all** classes and perform the exercises in the Practical Biology set for each class.
- Practical Classes will begin at exactly 10.05 for morning sessions and 14.05 for afternoon session. Students are expected to be present and prepared with lab coats, safety glasses at this time. For safety reasons usually no admittance will be allowed after these times.

Failure to attend and engage in the continual assessment component of your modules may result in you failing the module.

- Students with a medical condition/allergy, or who are pregnant/breastfeeding, are requested to inform the Senior Demonstrator (teresa.redmond@mu.ie). If the medical condition/situation changes during the year, please inform the Senior Demonstrator. All staff involved in this process will respect student confidentiality, ensuring that this information is provided to the relevant personnel on a need-to-know basis only.
- **Laboratory coat** can be purchased in the Students' Union, Londis Shop or the College Bookshop. It protects you and your clothes. Lab Coats must be Howie style i.e. not open necked but with a fastening at or just under the neck. Lab coats must also be cotton or mixed cotton (these are less flammable) and worn fully closed and sleeves down. **You will not be allowed into the lab without a lab coat.**
- **Safety glasses** are required when any chemical or biological agent is used. These may be purchased from the outlets above or in the practical session (at a cost of €1.00). Prescription glasses are not safety glasses – contact your optician if you want to purchase safety glasses with prescription lenses or your demonstrator if you want to purchase alternative safety glasses which fit over prescription glasses.
- **Plain paper** for drawing and a soft binder/folder.
- **Personal Laptops** Most weeks you may be required to sit an online exam or practical component. We request that you bring your own laptop to ensure availability. You will be notified of these exams in advance. **If you do not have access to a laptop please refer back to p. 11 of this handbook.**
- Pre-practical videos and presentations may sometimes be posted prior to a practical which you **must** review prior to attending your lab. These will include an introduction from the lecturer and essential information relating to the practical. You should also prepare for your practical classes by reading the relevant part of your practical manual and lecture notes.
- For each lab you will submit a practical workbook or write-up online through your module Moodle page. All assignments will be submitted online through your module Moodle page. Your write-up will be assessed by the demonstrator allotted to your bench and returned to you the following week. These assessments form a part of your practical mark at the end of the year. You must read your practical workbooks/write-ups feedback so that you can learn from your mistakes.

- Each semester you will be assigned a demonstrator who will provide guidance and instruction during your practical. The demonstrator will also be responsible for grading your practical workbooks/reports.
- It is most important that you arrive on time for practical classes. **Late-comers may be excluded.** The practical itself will start with a short explanatory talk (delivered by the Lecturer) providing you with the necessary information to enable you to carry out the practical.

Additional Practical Policies:

- Laboratory reports must be submitted for correction on the date instructed. Late submissions will be penalised.
- If a student attends a practical but the write-up is late because of illness, the student should obtain a sick cert and contact the Senior Demonstrator to agree a date for submission. There will be no penalty in this case.
- If a student attends a practical but the write-up is late because of any other unavoidable or unforeseen circumstance, the student should contact their Module Coordinator.
- If a write-up is late for any other reason, the following penalty will apply: 25% deduction if late by one week. After this, the write-up will be graded for corrections and instruction but **NO** mark will be awarded for work.

PLEASE NOTE THAT THE UNIVERSITY PLAGIARISM POLICY APPLIES TO PRACTICAL CLASSES AND ALL ASSOCIATED REPORT WORK.

REGULATIONS CONCERNING PRACTICAL CLASSES

University safety and public health procedures must be adhered to at all times. Instruction from demonstrators, academics and technical staff **must** be obeyed at all times. Failure to do so will result in automatic expulsion from the laboratory and the forfeit of any grades associated with that practical session and an “unexplained absence” will be awarded. Repeat offenders will receive an automatic failure of continuous assessment.

Laboratory safety- COVID-19 Related Issues:

- For the protection of yourself and others please read the following notes carefully and obey the instructions implicitly.

COVID-19 GUIDANCE:

- If you have COVID: do not come on campus, follow the HSE guidance for self-isolation (<https://www2.hse.ie/conditions/covid19/>)

Personal Protective Equipment

- Safety glasses are required when listed as a control measure in the risk assessment specific to each practical. These risk assessments are in your practical manual.
- **It is essential** that you bring your laboratory coat and safety glasses to all practicals where required for use (specified in the risk assessment for that practical). Under the current restrictions, the department cannot guarantee the availability of spare lab coats or safety glasses, and you will be prohibited from staying in the practical without these, if they are a requirement.
- Launder your laboratory coat regularly (preferably weekly) in a minimum 60°C wash cycle.
- Gloves must be worn when specified by the practical risk assessment. Not all practicals require gloves. Do not wear gloves to mitigate Covid-19 risks, gloves are more likely to increase the risk of transmission and for some practicals gloves are an unacceptable high risk e.g. in Year 1 with Bunsen's.

Preparing for Practicals

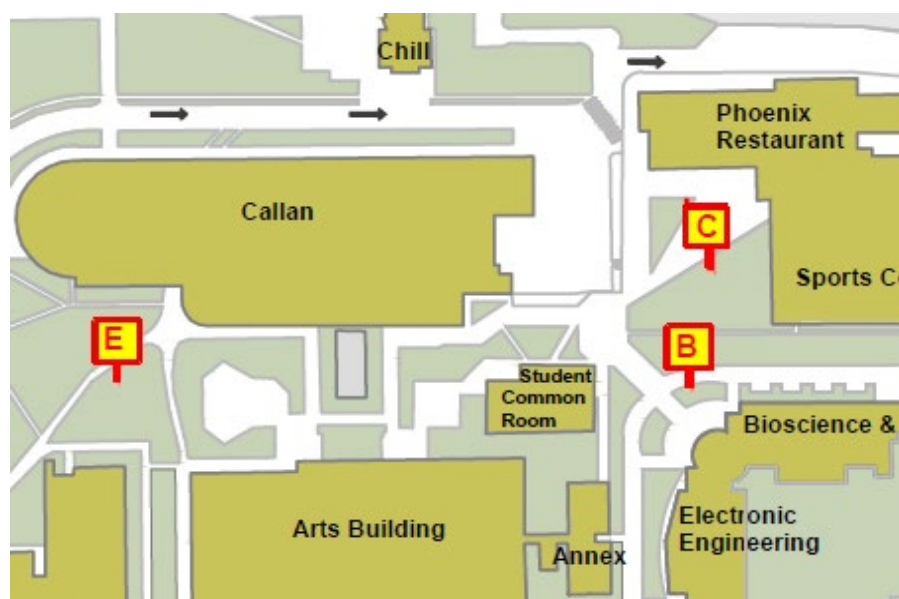
- Complete any advance requirements for the practical before attending (e.g. read practical manual, watch any associated videos, complete any required exercises). Details of these requirements will be provided by your lecturer in advance.
- Practical manuals will be available on Moodle in advance of your practical with a printed copy provided to you during attendance at the first practical.
- If you are unable to attend a practical, please refer to the instructions in your Introductory Handbook for completion of an Absence Form, along with submission of appropriate supporting documentation, as required (Notification of Absence section pp 29-31).

BIOLOGY LABORATORY SAFETY

For the protection of yourself and others please read the following notes carefully and obey the instructions implicitly.

FIRE:

- On hearing the fire alarm or on discovering a fire, stop what you are doing and raise the alarm.
- If you are using a Bunsen, switch it off.
- Shut off the Bunsen gas supply to the lab.
- Leave in an orderly manner and close the door behind you. **Do not use the lift.**
- Make your way to the nearest assembly point B, C or E (see the map below).
- Remain at this location until instructed by Security Staff to return to the building.



PERSONAL PROTECTION:

- Do not smoke, eat, drink or chew gum in the laboratory. University Policy prohibits storage of food and drink and food in all laboratories.
- You are required to wear a Howie style white laboratory coat with all buttons closed and sleeves fully extended at all times.
- You must also wear safety glasses at all times. Please contact your demonstrator if you need to purchase a pair.
- You will be provided with gloves for your personal protection. Unfortunately, they only protect the wearer and can easily contaminate surfaces. Remove all gloves before leaving the laboratory, even if for a brief period. Remove gloves while using laboratory equipment unless there are specific hazards present. Do not wear gloves when using Bunsen burners unless specifically instructed by the lecturer in charge.
- If you need to transfer samples or equipment to another laboratory, remove one glove and use the ungloved hand to open doors etc.
- Sandals, flip-flops and other open footwear are prohibited when chemical and biological agents are used.
- Long hair must be tied back.
- You must wash your hands immediately at the end of the practical.

PERSONAL INJURY:

- You must cover any cuts or grazes with a plaster. Please inform your Demonstrator. There are first aid cabinets in all teaching laboratories.
- Report any accident or injury, however trivial, to a Demonstrator.
- We will explain specific hazards or disposal methods, if any. You must follow these instructions carefully.
- Please inform your Demonstrator if you have any concerns relating to a pre-existing medical condition, or if chemical/biological agents used in a practical session may affect any pre-existing medical condition.

GENERAL SAFETY:

- In accordance with university regulations, you will be expelled from the practical session if you do not conduct yourself in an orderly manner, or if you deliberately act in an unsafe manner.
- We allow students in the teaching laboratory only during timetabled laboratory sessions. You may not use the laboratory at other times unless you obtain permission from the Technician in charge.
- Undergraduate students should not enter the preparation laboratory, research laboratories, growth rooms, storerooms etc. without permission.
- Proper regard to the correct use of equipment is required from all staff and students. Intentional interference with safety signs and safety features of any equipment is a criminal offence.
- We expect you to leave your bench place, including sink, clean and tidy.

You should be aware that we frequently transport chemicals and biological materials around the department. Therefore, it is very important that you walk slowly and carefully in the corridors.

N.B. Follow the instruction of your Demonstrator at all times. Please check with your Demonstrator if you have any doubts or questions in relation to safety. Notify your Demonstrator or the Senior Demonstrator if you have any health issues which you feel may be impacted by any practical.

NOTIFICATION OF ABSENCE

It is the responsibility of all students to be available for class throughout Semester I and Semester II between the hours of 0900-1800 Monday to Friday, in addition to occasional classes outside these hours (e.g. field trips, academic visits).

If you are unable to attend Laboratory practicals, workshops or tests for any reason you must advise the Department of Biology by submitting an on-line **Absence Form** through the **Moodle course [All Biology Students 2025](#)** either before your absence or within **FIVE** working days of the end of the period of absence. When submitting the absence form you will also be able to upload copies of your medical certificates or other relevant supporting documentation. Instructions on how to do this are on the Moodle page. **Failure to do so may result in the absence being counted as unacceptable and you will be given a mark of zero.**

Please note that if you are submitting a medical certificate, **the cert must be issued during the period of illness.** BACKDATED MEDICAL CERTIFICATES WILL NOT BE ACCEPTED FOR ANY REASON.

Failure to attend and engage in the continual assessment component of your modules may result in you failing the module.

No more than **one** absences per semester will be accepted. If you lodge more than one absence certificate in a semester, or if the period of absence extends to three weeks, **you will fail the practical component of the course**, and you may be referred to the Academic Advisory Office, Student Services; or to an appropriate member of staff in the department.

Please read and take note of your responsibilities relating to absences. Submitting a Notification of Absence Form, indicates that you have read and understood the responsibilities outlined below:

It is your responsibility to:

- **Advise the department of any absence. Submit an [Absence Form](#) to your department through the **Moodle Absences** course with the relevant supporting documentation either **before** your absence or within **FIVE** working days of the end of the period of absence.**
- **Keep in touch** with your department should you be absent for a prolonged period.
- **Make up any work** you have missed due to your absence.
- **Agree a revised deadline** with your department for any missed assessment(s) due to your absence. **Note that alternative arrangements for a missed test will only be made if a medical certificate is supplied.**
- **Recognise that submission of an Absence Form does not automatically mean that the absence is acceptable** and that it is at the discretion of the department as to whether any absence is deemed acceptable or unacceptable. If the absence should be deemed unacceptable it will be recorded as such and count against the minimum attendance level.
- **Recognise that**, although a specific individual absence may be deemed acceptable, if your overall attendance and submission of work drops below the minimum level prescribed by your department, then **disciplinary procedures will still be followed.**
- **Recognise that notification of absence, whether it is deemed acceptable or unacceptable, does not constitute grounds for appeal** against a course or programme failure or failure to progress to the next stage of study.

1. Notification of Absence Forms

Reason for absence	Documentation required (<i>all to be submitted online through Moodle</i>)
Illness up to and including 5 consecutive term-time days (excluding Saturdays and Sundays)	Absence Form
Illness for more than 5 consecutive term-time days (excluding Saturdays and Sundays)	Absence Form plus formal Medical Certification issued and dated during the period of illness and signed by the Medical Centre, your GP or hospital consultant
Unrelated to sickness	Absence Form plus supporting evidence

2. Supporting evidence

The following table gives examples of the kind of supporting evidence that you may be required to provide as justification of absence.

Absence	Evidence
Illness of LESS THAN FIVE consecutive term time days	Self-certification – Absence Form which must be submitted to the department through Moodle within 5 working days of the end of the period of absence . Should students submit repeated self-certifications, the department will require students to produce formal Medical Certification. Note that alternative arrangements for a missed test will normally only be made if a medical certificate is supplied.
Illness of MORE THAN FIVE consecutive term time days	Formal Medical Certification issued and dated during the period of illness and signed by the Health Centre or your GP or hospital consultant
Self-isolation without illness	Self-certification – Absence Form which must be submitted to the department through Moodle. Notify in advance or within 1 day of scheduled continuous assessment component. An alternative assignment/assessment may be made available for you to do remotely and submit online. Supporting evidence can include messages relating to close contacts or instructions to self-isolate.
Outpatient's appointment	Letter from outpatients or appointment card
Doctor or dental appointment	Appointment card
Documented personal problems	Letter from someone, e.g. counsellor, who has direct knowledge of the problem and/or is involved in supporting you
Illness of dependent or family member	Medical Certification and statement explaining illness and why personal attention is necessary
Bereavement	Formal certificate or note from family member who can vouch for the situation
Severe transport problem	A copy of online or newspaper reports on the problem to be submitted to the department within 5 working days of the problem having occurred
Court attendance	Official correspondence from the Court confirming attendance requirement
Victim of crime	Statement of events, police report and crime reference number
Involvement in a significant/prestigious event	Letter of invitation from the relevant organising body
Sport commitment at national/county level	Official correspondence from the relevant sporting body confirming the requirement to be available on specified dates

The following table gives examples of the kind of circumstances where absence **may** be deemed as 'acceptable' and 'unacceptable' for non- attendance. This is for general guidance; it does not represent an exhaustive list. All absences will be reviewed on a case by case basis.

Acceptable	Unacceptable
<ul style="list-style-type: none"> • Illness • Displaying COVID-19-related symptoms • Self-isolating due to COVID-19 • Hospitalisation • Outpatients appointment (where possible you should try to make any appointment outside of your class commitments) • Doctor or dental appointment (you should try to make any appointments outside of your class commitments) • Documented personal problems • Illness of dependent or family member (until other arrangements can be made) • Bereavement • Severe transport problems (e.g. severe disruption of train travel due to signaling failure or track problems or major traffic incident on motorways, which can be verified by online or newspaper reports) • Court attendance or victim of crime • Representing College/county/ country at significant or prestigious event or sport commitment or involvement in such an event 	<ul style="list-style-type: none"> • Oversleeping • Misreading the timetable • Paid employment and voluntary work • IT and/or computer problems • Minor transport problems, e.g. being stuck in normal rush hour traffic, not permitting enough time in travel plans for minor unanticipated delays, missed public transport • Holidays • Family celebrations • Weddings • Accommodation issues, e.g. moving house • Extra-curricular sports activities • Driving test • Lack of awareness of attendance requirements and College Regulations in this regard

MULTIPLE CHOICE QUESTIONNAIRES & NOTIFICATION OF ABSENCE

Throughout the year you will sit a number of Questionnaires, the majority of which are Multiple Choice Questionnaires (MCQs) which are generally comprised of questions that cover a significant proportion of the module. MCQs for BI103 and BI108 (Biological & Biomedical Science students only) may be either machine readable MCQs or short answer questionnaires, and may be held during a lecture time slot. It is important that you view the MCQs as official exams and are aware that different policies exist for missing an MCQ than for a practical. In addition, Maynooth University Exam policies and regulations will apply and be enforced during MCQs.

All MCQs are compulsory and failure to sit these exams will result in a **zero** grade.

If you foresee that you may not be able to sit an MCQ it is imperative that you contact the Lecturer who is setting the exam or the Senior Demonstrator **BEFORE** the MCQ.

Individuals who miss an MCQ may be permitted a resit if they have an acceptable reason and provide the appropriate evidence. Individuals who miss an MCQ without an acceptable reason and who did not contact the **Lecturer who has set the exam** or **Senior Demonstrator** prior to the MCQ will **not** be offered a resit and will consequently be awarded a zero grade.

LEARNING OUTCOME ASSESSMENTS

Learning Outcome Assessments (LOAs) are short quizzes that test your learning from the previous week's lectures, practicals and activities. These are used in Modules BI101 and BI102 and may be held on-campus (in a practical class or tutorial slot) or remotely (online) at a predetermined time.

MCQs and LOAs are exams and Maynooth University Exam policies and regulations apply during both. These can be viewed at the [Maynooth University Examinations Office](#) webpage.

PREPARATION FOR EXAMINATIONS

- **Preparation for examinations should begin from the first day of the first term.** Steady work throughout the semester is more likely to bring success than cramming for a few weeks before the exams.
- Make absolutely sure that you have a good set of lecture notes, as the lectures provide the framework for the course and exams will be based on them. You **must understand all the lecture material**. If you understand everything as you go along you will find it much easier to learn it during revision.
- Make use of the library or the books recommended by the lecturer to fill out the lecture material and make supplementary notes. Lecturers, who will also be setting and marking the exams, are usually more impressed by an answer with evidence of extra reading than one which merely restates the lecture notes.
- Begin your final revision for examinations in good time. If you leave it too late you will set yourself an impossible workload, leading to panic or undesirable practices, such as question spotting or omitting sections of the course.
- Make sure that you go into the examinations **having learned the whole course**. It is the only way to be sure of being able to answer any of the questions set. If you wish to "spot" questions do so only after you have got a good grasp of the course as a whole, then it may be worth giving **extra** attention to the areas that you guess may come up in the examination.

You might find it helpful to practice answering previous exam questions under examination conditions (without texts or notes and in the time allowed in an exam). Lecturers are generally willing to correct and criticise these for you.

- Make sure that you have everything that you might need in the examination well before. If your exam is a written exam, you will require pens, pencils, rubber, ruler and perhaps some coloured pens or pencils. If your exam is a timed online exam, you will need access to your own computer or laptop.

In the examination (only relevant to BI103 and BI108 students):

- Read the paper carefully - including the rubric (instructions above the list of questions). Make a preliminary decision as to which questions you are going to answer.
- Start with a question you feel confident about. Think carefully about what the question is asking for and answer **the question as set** - not one that you think should have come up. You might find it helpful to begin by making **short** notes on your answer. Also, if you think of something, whilst you are writing your answer, that you want to include later, keep a note of it so that you don't forget. Complete your answers making sure that you follow instructions.
- **ANSWER THE CORRECT NUMBER OF QUESTIONS. This cannot be too strongly emphasised.**

If you answer **less** than the correct number you greatly reduce your chances of passing or doing well.

- Remember that the answering time allotted for each question in Section B is approximately 30 minutes for first year questions. In general, you should expect your answers to reflect this amount of writing time.
- It is often helpful to illustrate your answers. Diagrams can give a clearer and much more economical presentation of some points. Where you are asked to give an illustrated account, drawings are essential.
- It is important that you:
Record exactly the questions you have answered on the front of your examination paper, as well as at the start of each question.

EXPERIENTIAL LEARNING AT MAYNOOTH

Experience More During Your Time at MU

The routes available to Maynooth students to experience more from their degree programme are diverse, enabling the development of rich learning experiences that connect classroom content with real-world experience. The Experiential Learning Office connects Maynooth students to a range of opportunities in the following areas.

Professional Development and Employability

Experiential learning professional development and employability modules are available to eligible second year students. The key purpose of these modules, involving a number of employers, is to facilitate students in their academic, personal and professional career development, so that they will be well equipped to secure internships and to successfully enter the graduate labour market.

See Skills for Success EX201 and EX202 for more details

MU SPUR (Summer Programme for Undergraduate Research)

An active research based and paid experiential learning programme for successful undergraduate pre-final year student applicants who **wish to learn more about the postgraduate experience, by** working closely with faculty mentors on research projects across a range of disciplines.

Community Based Service Learning

Community Based Service Learning presents a credit-bearing academic experience that empowers students to engage with their surrounding communities, which often results in enhancing student's academic, civic, social and personal development, whilst they contribute to the common good. The experiential learning office facilitates academic staff in offering community-based service-learning experiences with their students.

For further information, refer to:

Website: <https://www.maynoothuniversity.ie/experiential-learning-office>

Email: Explearning@mu.ie

HOW TO FAIL FIRST YEAR IN UNIVERSITY

Life at University is exciting and challenging! You will meet new people and have lots of free time to study and develop new interests. At University you will be treated as an adult so the onus is on you to use your time wisely and get the balance right between enjoying yourself and studying for, and getting, the best qualification you can. It would be very unwise to have a great time socialising in first year and fail your exams in the summer. So, you need to be responsible and exercise good judgement in treating your studies seriously. Here are some ways that people in the past have failed first year - learn from their mistakes!!

1. **Do not attend lectures!** If you do not attend lectures you will miss a lot of information that is not possible to pick-up from somebody else's notes. The lecturer may emphasise a point or explain something in a particular way that will stick in your mind. Missing lectures, for whatever reason, is serious and should be avoided. If you do not attend lectures you will undermine the whole learning process.
2. **Chat during lectures!** Some students treat lectures as a great opportunity to have a bit of 'craic', or chat up another student! **But** the main reason for attending a lecture is to get information and develop your knowledge of the topic. Listen to what is being said, write your notes and if you have any difficulties ask the lecturer at the end of the class.
3. **Do not read your notes!** Some students attend classes but never read their notes until just before the exams. If you read your notes the day you attend the lecture it will reinforce the information and help you remember.
4. **Don't study!** Once you have your lecture notes you will need to supplement the information with material from textbooks or the WEB. You will also need to understand the material and begin to learn relevant points. It is far too late to try to do this in the few weeks before the exams - the earlier you do this the easier it will be.
5. **Don't study regularly!** You should get into the habit of trying to do a few hours of study each day from the beginning of the year. You will obviously increase the amount of study you do as the exams approach but it is important to develop a good study routine.
6. **Don't submit material on time!** You will be required to prepare and submit material throughout the year. If you are late, you risk losing marks. In addition, it is good practice to be punctual with assignments and manage your time effectively.
7. **Don't attend practicals!** Practical give you information which supplements the knowledge you get in lectures so it is important to attend these and ask questions if you are unclear on any points.
8. **Don't ask questions!** The aim of University is to increase your knowledge therefore if you are unclear on any point ask the lecturer concerned. They will be delighted to see that you are interested and will be able to answer the query or at least point you in the right direction.
9. **Don't prepare for the exams!** In September the exams look to be very far away but they will arrive sooner than you expect! You need to start working towards the exams from the first week of the year. Use your time like someone training for a marathon - train (attend lectures and practicals), build up your distances (study, attempt sample exam questions) and finish the race (pass your exam successively).
10. **PANIC!** There is no need to panic if you adopt a sensible and responsible attitude to your studies. Don't worry about other students saying they have the entire course covered and all the possible answers prepared. Work at your own pace but remember that you sit the examination as an individual so it is up to you to ensure that you pass the exam and get the best possible marks.

- Professor Kevin Kavanagh

DEPARTMENT OF BIOLOGY POLICY ON PLAGIARISM AND USE OF AI TOOLS

Definition of Plagiarism

Plagiarism involves an attempt to use an element of another person's work, without appropriate acknowledgement in order to gain academic credit. It may include the unacknowledged verbatim reproduction of material, unsanctioned collusion, but is not limited to these matters; it may also include the unacknowledged adoption of an argumentative structure, or the unacknowledged use of a source or of research materials, including computer code or elements of mathematical formulae in an inappropriate manner.

The policies of the University apply within the Department of Biology, as contained on the Maynooth University website (<https://www.maynoothuniversity.ie/university-policies/rules-regulations-students>). Plagiarism is a form of academic dishonesty and will be treated with the utmost seriousness wherever discovered.

This policy will be implemented in the following manner:

1. Dealing with Suspected Cases of Plagiarism: Assignment markers will refer suspected cases of plagiarism to the Module Coordinator (or in the case of practical assignments, in first instance to the Academic in charge of practical module); Any student submitting written work for continuous assessment can be asked by the marker or the department to take a further test. This may take the form of an oral examination on the assignment in question and related issues, or the writing of a test paper in controlled conditions. Requiring a student to take such a test does not necessarily imply that plagiarism is suspected.

2. Dealing with Proven Cases of Plagiarism: If there is evidence of plagiarism, the matter will be turned over to the Course Coordinator, who will determine the disciplinary consequences following the guidelines outlined below. **In each case the student may be invited to explain in person** to the Course Coordinator the origin of the material contained in the piece in question.

Procedures

1. Where a marker (**or course coordinator**) believes that a case of plagiarism has been identified, the matter shall be referred to the Head of Department with a written report outlining the reasons for suspecting that the work has been plagiarised.
2. The Head of Department shall then make an initial finding as to whether or not plagiarism has occurred, taking account of factors including, but not confined to, the extent of the plagiarism, indications of intent to deceive, the student's prior history in this regard, practice within the discipline, and the level at which the student has submitted the work. The Head of Department will not take account of extenuating medical or personal circumstances in making a decision.
3. If the Head of Department is the marker who suspects plagiarism has occurred, he or she shall delegate responsibility to a nominee in that department to follow the procedures laid down in this policy
4. Where the Head of Department determines that plagiarism has not occurred but there are indications of incorrect citation, the work shall be awarded a grade that takes account of the failure to cite sources correctly, within the overall context of the work as a whole.
5. Where it is considered right to do so, the Head of Department shall confirm the determination that plagiarism has occurred by making a record of the decision setting out the reasons. At this point, the Head of Department shall consult the Registrar's Office, informing the Registrar of the finding, and requesting any information on previous findings in relation to the student. Should prior findings exist, the procedures in xi and xii shall apply.
6. Where the Head of Department determines that plagiarism has occurred, a meeting with the student shall be convened to inform the student of the finding.
7. The student shall be advised of the determination by the Head of Department and of the consequences that may unfold and that a response should be received by the Head of Department from the student within ten working days from the date the determination was confirmed.

8. The student shall be advised that failure or refusal to respond within the designated period of time, or failure or refusal to attend for any meeting requested by the Head of Department, will result in the matter being referred to the **Academic Discipline Board of Maynooth University** in like manner as if the student had chosen not to accept the findings of the report.
9. Where the student chooses not to accept the findings of the report, the matter shall be referred to the **Academic Discipline Board of Maynooth University** together with all relevant documentation and reports.
10. Where the student accepts the findings of the report, the student shall be asked to sign the report. The Head of Department shall then countersign the report. The Head of Department will then give the work a mark of 0. The student will be allowed to redo the assignment before a designated deadline prior to the next Examination Board meeting, if it is practical to do so. The mark for the resubmitted work will be capped at 40%. A record shall be kept in the Department of the incident, and this shall be forwarded to the Registrar's Office.
11. In the case of a second finding of plagiarism in relation to a student, the matter is automatically referred to the Academic Discipline Board, who shall notify the student that the matter has been brought to its attention.
12. A "second finding" in this regard may refer to findings made in the current academic year or in previous academic years, and it may refer to findings made by more than one Department."

-(Maynooth University Policy on Plagiarism)

2a. Minor Plagiarism: In cases of minor plagiarism, the following will apply:

In instances where an element forming part of an assignment (from a phrase or sentence up to a paragraph or two) is found to be plagiarised, marks will be deducted for that assignment, there will be no possibility of submitting a 'make-up' assignment, and previous and subsequent work submitted in connection with the course may be subject to particular scrutiny. While the amount of marks deducted will be proportionate to the extent of the plagiarised material, the deduction may be severe.

2b. Major Plagiarism: In cases of major plagiarism, the following University statutes will apply:

In instances where a significant part or all of an assignment is found to be plagiarised, the Department will "award a mark of zero in the assignment, with no chance to resubmit in the current academic year" (***Maynooth University Policy on Plagiarism***), and previous and subsequent work submitted in connection with the course may be subject to particular scrutiny. In serious cases the plagiarism will be referred to the **Academic Discipline Board**.

2c. Postgraduate Students: Instances of postgraduate plagiarism will be referred directly to the project supervisor or member of faculty responsible for the relevant postgraduate programme. "Instances of plagiarism among postgraduate research students will be treated as being particularly serious. The Board will not take into account extenuating medical or personal circumstances in making its decision.." (***Maynooth University Policy on Plagiarism***).

3. Recording: All cases of plagiarism will be recorded by the Course Coordinator on the student's permanent record card. All members of the Department providing a reference for a student **may be obliged to mention an instance of major plagiarism**, or two or more instances of minor plagiarism, when providing a reference for the student.

The Maynooth University policy on Academic Integrity is stated below and breaches of this will lead to academic misconduct procedures.

Academic Integrity

Where a student is required to produce work for assessment, it is expected that the work is the student's own work and is produced in a fair and honest manner. Students are required to be aware of and comply with the subject-specific requirements set by the individual Departments or module leaders on different assessments and need to be aware that these may differ not only by subject but also by assessment.

Breaches of academic integrity include:

- A student falsifies data or information in an assessment.
- A student submits the same content for more than one assessment without appropriate acknowledgement (self-plagiarism).
- Using Artificial Intelligence (AI) tools or other computer-generated material to complete all or part of an assessment without acknowledgement and outside the terms of Departmental policies or requirements for individual assignments.
- A student gets another person or service to complete all or part of an assessment.
- Using any tools explicitly forbidden by the Department or within the programme.

Responsible use of Artificial Intelligence (AI) tools for assignments submitted to the Biology Department.

This section lays out the departmental advice and policies on how to use artificial intelligence (AI) ethically and responsibly to support your learning. It details when AI may or may not be used in your assignments. **Be cautious when using AI tools for assignments.**

The key to appropriate use of large language model (LLM) tools (eg ChatGPT or others) is to use these tools cautiously, critically, and reflectively to support you in your learning, research and writing in Biology. They should not be a replacement for your critical reading in a topic and should build on your understanding of Biology (not replace it). Using clear, limited, and accurate prompts when interrogating AI based tools will certainly help you. However, tools such as ChatGPT do not verify or even discover information, these tools analyse text to give a most probable pattern that approximates to an answer to your prompt. In other words, they simply spit out the most likely next word. This is an important consideration: ChatGPT can give you a very well-structured essay which is completely false! **This is why AI tools must not be used in any written assignment (this also includes lab reports and write-ups).** ChatGPT does not “know” the material it presents is fake and if you do not understand the output, then neither do you.

LLM tools do not verify material scientifically but do incorporate all the biases inherent in the interpretations of the material of others. Thus, ChatGPT can deliver overtly or covertly racist, sexist or other discriminatory material as apparent fact, when in reality, these have no scientific basis. It can be trained to “support” these outputs with fabricated references or misrepresented material of others. Such outputs should not be used in your work, but *can you tell the difference between real or fake material?* Using an AI tool properly takes more effort than you might expect, as you will need to check the veracity, and sources of the returned material, evaluate it critically and rewrite it before use. Be aware of the implicit and explicit biases in any text produced by AI tools and take steps to mitigate this in the work you submit.

What are the acceptable uses of AI tools for Biology department assignments?

- It is only acceptable to use AI tools in your Biology assignments if specifically stated by your lecturer for a particular module or assignment.
- Before using an AI tool, make sure you understand the basics of your topic, then use prompts that are clear, limited/focused, and accurate;

- Spend time verifying the material returned, including the sources used, by your query or prompt;
- Remember that LLM/AI tools generate text without understanding the output, they generate, summarise and predict text, no matter how unscientific or false.

What are unacceptable uses of AI tools for Biology department assignments?

If you attempt to present the outputs of AI based LLM such as ChatGPT or Quillbot as your own work, then you are attempting to present material that is not the result of your academic judgement or authorship. If you use these tools in the following ways, then you have breached the Department and University standards of academic integrity and will be subject to the disciplinary procedures of the Department and/or University ([An Introduction to Marks and Standards, a guide for Students \(Ver 03April2020\).pdf \(maynoothuniversity.ie\)](#)).

You must not:

- **Use AI tools of any kind for any aspect of your third year dissertation (BI305) or written assignments, including lab reports and write-ups (unless explicitly approved by your module lecturer)**
- Use AI tools to create blocks of text (including single paragraphs to complete assignments) and/or submit these as your own work
- Use AI tools to create diagrams, figures or tables and submit these as your own work. Instead learn to use BioRender, Power Point or Excel to create diagrams and graphs, using your judgement.
- Use AI tools to support your preparation of an assignment without declaring which tools and/or how they were used. (You must not use AI/LLM tools for your 3rd year dissertation or written assignments in Biology)
- Use AI-generated false, or inaccurate references or submit AI-generated false, biased or discriminatory claims.

Consequences of unacceptable AI use in course material submitted to the Biology department could be large and impact you in many years' time.

Think of your future career. Future tools in the University may detect AI much more accurately than at present. **These may be deployed retrospectively and you could face loss of your degree qualification**, public embarrassment, and even loss of a job. Students presenting content that has been generated using AI are subject to the same disciplinary procedures as plagiarism. This can potentially result in denial of a reference, or a permanent notice on your student academic transcript, with career-long negative implications. Where a marker (or detection software) of submitted material suspects the inappropriate use of AI tools, the following procedure applies: if the module coordinator considers the use to be non-trivial, the issue will be referred to the departmental academic integrity committee who will assess the case and have the option to perform a **verification assessment** in the form of a face-to-face interview as detailed in the University's Marks and Standards. Where a student does not engage fully with the departmental process or in the most serious instances, the case will be referred directly to the University's Academic Discipline Board without further consideration by the department.

**Biology Dept Academic Integrity Committee
May 2023**

Biochemical Calculations Website: Biochemical™

<http://www.biochemicalc.com>

Students in the Department of Biology now have access to Biochemical™. This website, developed by Professor Sean Doyle (Biology) and Mr Dermot Kelly (Computer Science), allows students to:

1. Learn the fundamental concepts of biochemical calculations such as:

What are moles, nanomoles and micrograms? Why do I need to use moles in my calculations?
How do I make up laboratory solutions such as buffers? What is molarity?

2. Use online calculators to help solve biochemical problems.

The online calculators allow students to calculate the weights (in mg or g) of reagents required for making up laboratory solutions of defined molarity, calculate the volume of stock solutions required for preparation of a more dilute reagent, carry out %(w/v) dilutions, work out how to do serial dilutions etc...

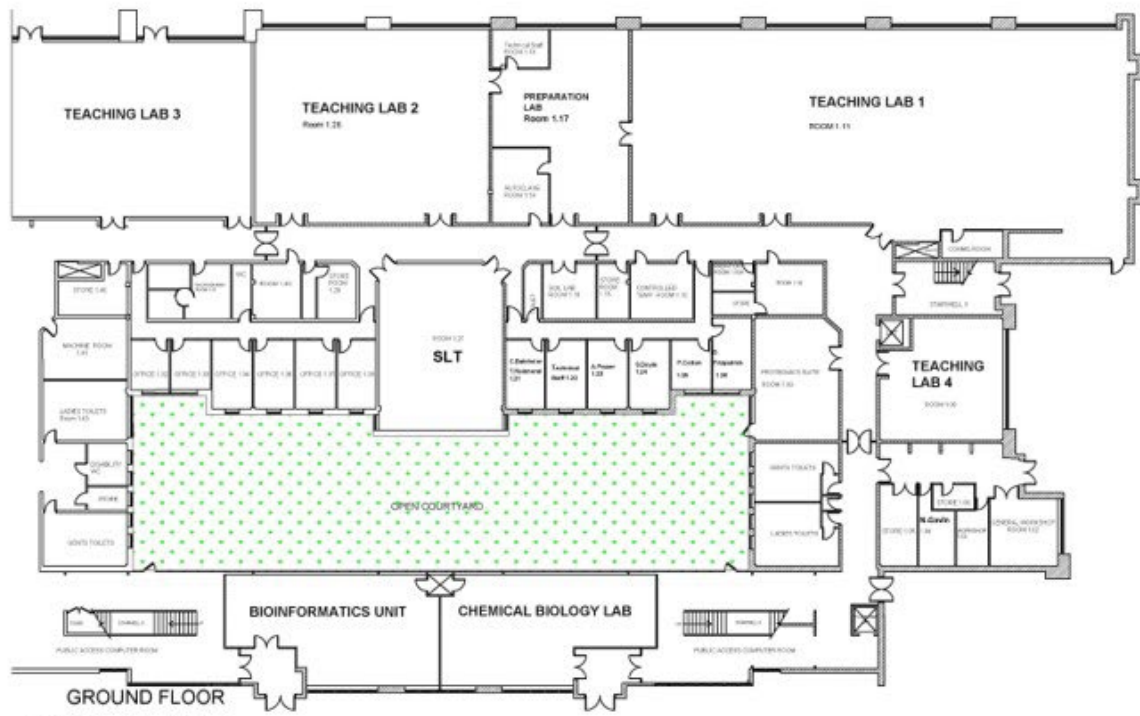
3. Practice online questions to test their understanding of biochemical calculations.

Biochemical™ offers a suite of pre-formatted questions to help students judge if they understand key concepts required for becoming proficient at undertaking laboratory calculations. These questions are of varying difficulty and style, and are designed for use in association with the online calculators on the Biochemical™ website.

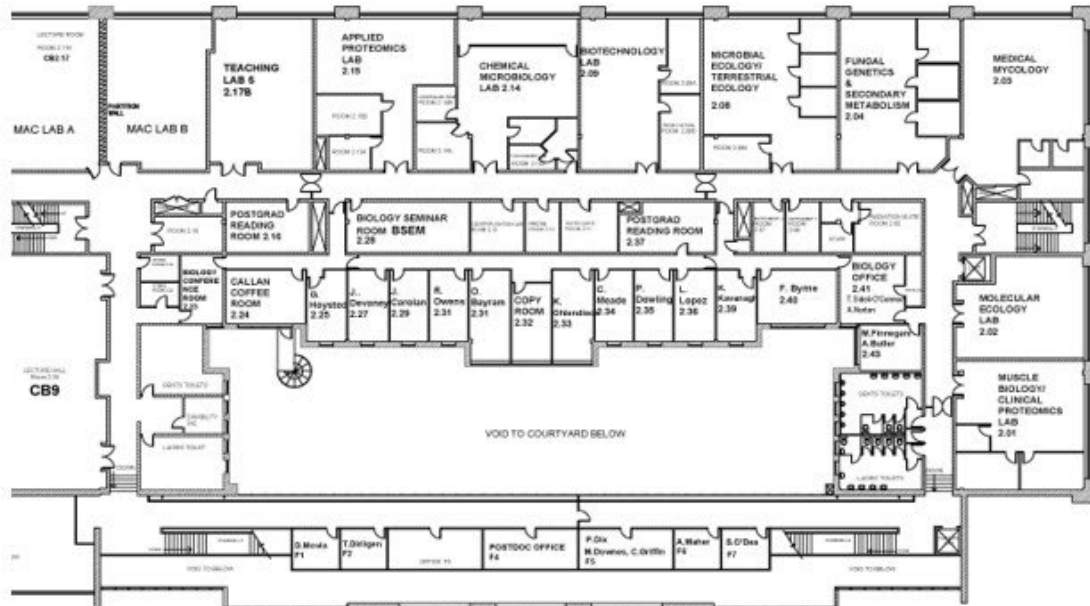
Although primarily designed for students in the 3rd and 4th years of our degree programmes, it will also be of assistance to students at earlier stages of study. Indeed it may be of use to students taking Chemistry, or any subject requiring knowledge of laboratory calculations. Postgraduates may also find aspects of Biochemical™ beneficial to their own research projects and also find use of its functionalities a useful "double-check" for their own laboratory calculations.

We encourage you to use Biochemical™ and please tell others if you're happy with it. If not, please email: biochemicalc@gmail.com

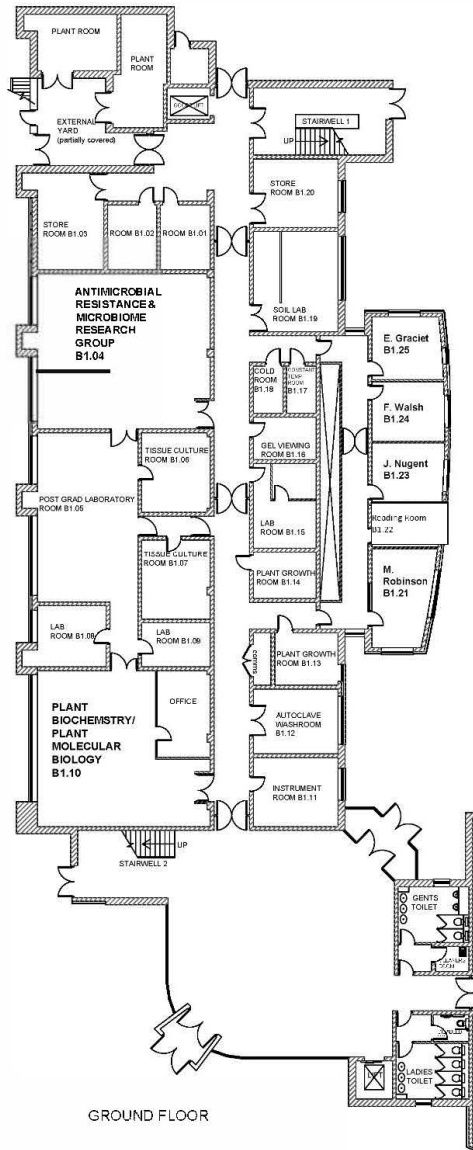
Biochemical™ was funded by the Maynooth University CTL Fellowship Programme 2011



GROUND FLOOR
CALLAN

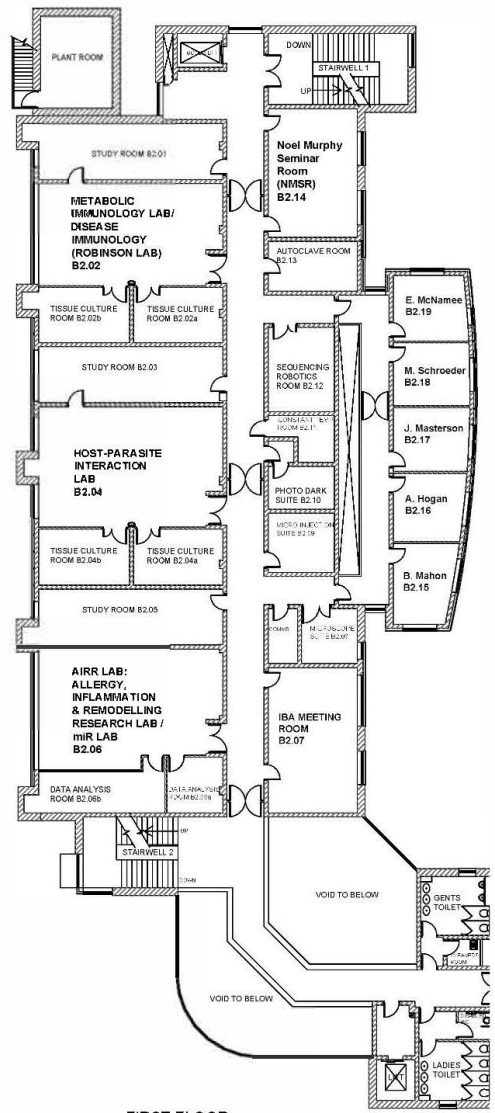


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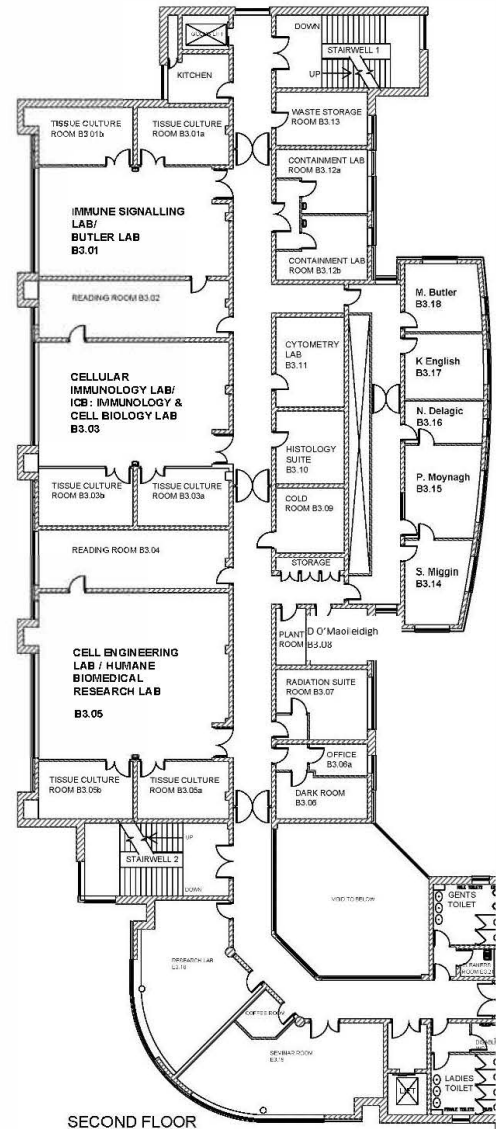
GROUND FLOOR

BIOSCIENCE BUILDING



FIRST FLOOR

BIOSCIENCE BUILDING



SECOND FLOOR

BIOSCIENCE BUILDING