

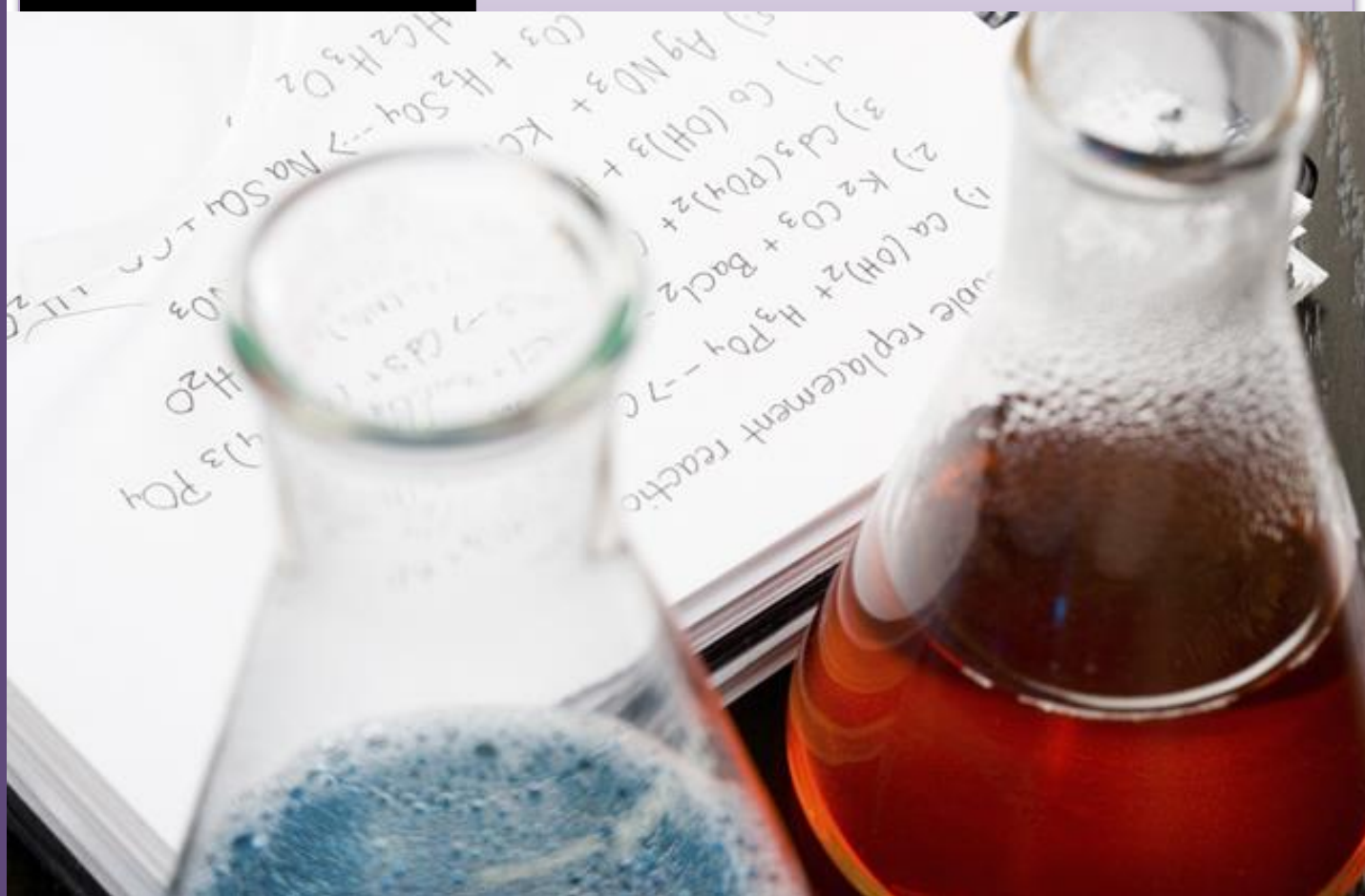


Maynooth University
National University
of Ireland Maynooth



**DEPARTMENT
OF CHEMISTRY**

**1ST YEAR STUDENT HANDBOOK
2021 - 2022**



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Introduction

Welcome to the Chemistry Department at Maynooth University, Maynooth.

The contents of this handbook are designed to give you an introduction to the modules on offer in the current year by the Chemistry Department. It also explains certain rules and regulations, and various arrangements that affect you. Information is accurate at the time of production. This handbook should be consulted in tandem with the following information sites:

Departmental Website: <http://maynoothuniversity.ie/chemistry>
Moodle: linked via <https://www.maynoothuniversity.ie/current-> students
1st year Notice Board: Located beside 1st year laboratory, Ground Floor, Science Building.

If you have any further queries please contact Carol Berigan (Carol.berigan@mu.ie) in the Chemistry Department Office. Please note the office hours below:

CHEMISTRY DEPARTMENT OFFICE

Room 2.65, First Floor, Science Building, North Campus (*end of corridor*)

Office Hours:

Monday to Thursday

9.30 am - 1.00 pm

2.00 pm - 5.00 pm

Friday

9.30am to 1pm

(Office is closed to students on Friday afternoon)

Telephone: (+353 1) 7086060 / 3770

Fax: (+353 1) 7083815

Email: Carol.berigan@mu.ie

We hope that you enjoy your studies with us and that you find your time here both productive and stimulating.

Chemistry Department, Maynooth University
Academic Year 2021 - 2022

Health and Safety

All 1st year students must be fully aware of the safety issues pertaining to their laboratory work. In the practical learning of the subject of chemistry you deal with substances of a hazardous nature and so due caution must always be exercised. 1st year students are all issued with a laboratory manual, containing a set of Safety Instructions; this must be read as soon as possible.

Only after reaching a satisfactory level in the Health and Safety test will you be allowed to start laboratory work. Care should be taken when using any chemicals and you should always read the safety information which outlines the Health Hazards and the Control Measures you need to take in relation to the chemicals you will be using during your laboratory session. This information is also available in your Laboratory Manual and must be read prior to your laboratory session.

The day-to-day administration of safety matters is managed by the Department's Health and Safety Officer, Ria Collery-Walsh (ria.walsh@mu.ie).

Laboratory safety- COVID-19 Related Issues

The control measures associated with reducing the risk of COVID-19 transmission may change as the pandemic evolves.

- Do not attend a practical if you have symptoms of COVID-19, or if you have been advised to self-isolate or restrict your movement.
- If you are a confirmed case of Covid 19 please email the Covid Response Team at Covid.Response@mu.ie and cc the Chemistry Department at chemistrycovidsafety@mu.ie
- If you start feeling symptoms of COVID 19 during a lab session, please inform a demonstrator or a member of staff.
- All students will remain at least 1 m apart for the majority of practicals.

Face Coverings and Personal Protective Equipment

- In line with University policy, face coverings are mandatory during practical's.
- If you are unable to wear a face mask for medical reasons, you are permitted to wear a face shield. Wearing of face shields is only permitted when supported with medical documentation. Face shields worn in practical's must meet the same standards (EN166 1 F3) as safety glasses.
- We would encourage students who are in high risk categories to contact the Disability Office and/or Medical Centre to discuss registration for additional supports (access.office@mu.ie) (<https://www.maynoothuniversity.ie/study-maynooth/supporting-students-disabilities/how-register#>).
- Put your face covering on before entering the building and only remove it after you have left the building. It is advisable to have an extra face mask.
- Do not put face coverings on laboratory surfaces or equipment.
- **It is essential** that you bring your laboratory coat, safety glasses and face mask to all practical's. Under the current restrictions, the department will not rent lab coats and you will be prohibited from staying in the practical. Safety glasses are available for purchase if necessary.
- 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 practical's require gloves. Do not wear gloves to mitigate Covid-19 risks, gloves are more likely to increase the risk of transmission.
- Please scan the Maynooth University Check-In QR code that is located closest to you on your bench at the start of the lab session.

Entering/Exiting the Teaching Lab

- Ensure to sanitise hands when entering the lab and wash hands frequently throughout the session.
- Do not congregate in any building or corridor before or after a practical.
- Clean your workspace before and after your lab session. It is mandatory to clean your area after the lab session.
- Laboratory doors will be opened fifteen minutes before the start of any practical, go straight to your designated workspace.
- Lockers outside the lab may be used to store your personal belongings. You will be instructed which ones to use. Items are left in the lockers at your own risk. Please bring your own padlock.
- When you have finished your practical work, contact your demonstrator to see if you can leave the lab.
- Exit the laboratory using the assigned door and maintain social distancing.
- One-way stairwells are signed as well as routes in corridors. The wider corridors are two-way with a 'keep left' policy.
- Additional or revised control measures will be communicated online or during a practical.

Calendar 2021 – 2022

FIRST SEMESTER	
Monday 20 th to Friday 24 th September 2021	First Year Orientation
Friday 24 th September	Deadline for Lab Group registration
Monday 27 th September	Lectures commence
Monday 25 th October to Friday 29 th October	Study Week
Monday 1 st November	Resumption of Lectures
Friday 17 th December	Conclusion of First Semester Lectures
Monday 20 th December to Friday 31 st Dec	Christmas Vacation
Monday 3 rd January to Thursday 6 th January 2022	Study Period
Friday 7 th January 2022	Examination period commences

SECOND SEMESTER	
Monday 31 st January 2022	Lectures resume
Monday 14 th March to Friday 18 th March	Study Week
Friday 15 th April	Good Friday – NO LECTURES
Monday 18 th April to Friday 22 nd April	Easter Vacation
Monday 25 th April	Resumption of Lectures
Friday 6 th May	Conclusion of Second Semester
Monday 9 th to Thursday 12 th May	Study Period
Friday 13 th May 2022	Examination period commences

RE: Course Registration (September 2021 / February 2022)

First-Year undergraduate students may change subjects and modules up to the end of the fourth week of the first semester (Friday, 22nd October 2021).

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.

EXAMINATION TIMETABLE

Semester One January Examinations:

Friday 7th January 2022

Semester Two Summer Examinations

Friday 13th May 2022

Autumn Examinations

Wednesday, 3rd August 2022

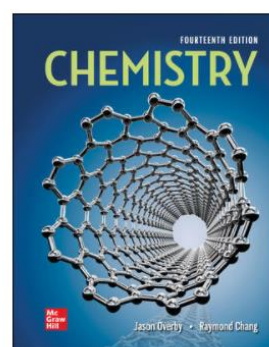
Glossary

Absence Form: If you are absent from a practical lab or workshop session, a medical certificate and completed lab absence form (available from Moodle CH101 and CH102 course pages) must be emailed to the departmental office (chemistry.department@mu.ie) within one week of absence.

Academic year: An academic year is a period of time each year when a university is open, and students are attending classes. At Maynooth University there are two semesters, September to December and February to May.

Assessments: There are many forms of assessments e.g., written exams, practical reports, online self-study, quizzes etc. Most scientific modules include practicals, workshops as part of the assessment (known as continuous assessment). All of these are your opportunity to show your understanding of the material covered in the module and to build good marks to ensure you graduate with a good degree. The Course finder site at Maynooth University will show you how a module is assessed. http://apps.maynoothuniversity.ie/courses/?TARGET=QUALIFICATION&MODE=VIEW&SUBJECT_CODE=&OFFERING_CODE=U_HONS_DEGREES&QUALIFICATION_CODE=SCI

Books: Your textbook for CH101 and CH102 is Chemistry, by Chang and Overby (13th edition). When you sign up to the CH101 module your lab registration fee will cover access to the ebook via the McGrawHill online virtual platform. You can also purchase a hard copy of the textbook from the MU campus bookshop.



Components: Module assessments are usually made up of components such as practicals, MCQ or final exam. Students' complete assessments for each component and the results are combined to give an overall module grade. You must pass (achieve >40%) in your continuous assessment component for CH101 and CH102 in order to progress into year 2 (see rules and regulations above).

Important Note: *You cannot repeat the continuous assessment component. Not passing this component (pass mark 40%) leads to a cap of your module mark at 35%.*

Communications: For general queries please use the chemistry.firstyear@mu.ie email address. We endeavour to answer all emails within two working days, most emails are answered within one working day, however if the volume increases so too will the length of time it takes to answer. Please note that normal working hours are 9-5 Monday to Friday so please where possible try to keep mails to within this period and do not expect a reply over the weekend. Please try to see if the answer to your query lies on the Moodle page for the module or within this Handbook. See below section on Staff-student communication.

Coversheet: A front page sheet for your lab report should be completed and included when you submit your report. This sheet will be available for download on Moodle.

Credit: Credit is the value given to a module. A 5-credit module will require 100 to 125 hours of work. This includes lectures/seminars, self-directed study and assessment. The European Credit Transfer System (ECTS) provides a framework to clarify the relationship between educational activity and credit value.

Module name	Credits	Semester	Module
<i>Semester 1 - Modules</i>			
General Chemistry	7.5	1	CH101 / CH101P
<i>Semester 2 - Modules</i>			
General Chemistry	7.5	2	CH102 / CH102P

Email Etiquette: You should use your MU email account ONLY when communicating with Lecturers, Technical and Administrative staff. We will communicate with you by email through your MU email address only. Email communications should follow the same standards appropriate to written business communications and the tone must be respectful. All staff, lecturers, demonstrators and tutors should be addressed with the appropriate title. Student name, student number, year, module and group **MUST** be provided in the subject line of your email.

Email protocol: MU uses email as an official method of communication and your MU email is the one to use. Make sure you check regularly for updates.

Drop-in chemistry sessions: Weekly online sessions (tutor led) which align with McGrawHill assignments (no need to book/register just drop in online via Microsoft Teams). Small group discussion and problem solving is beneficial to your learning, encouraging questions and confirming understanding as well as letting you get to know each other. It is vital that any problems with your subjects be discussed with the lecturers/tutors/demonstrators as soon as the problem arises. Do not wait until it is too late to seek help.

Groups: As the start of the academic year, you will need to register for your practical and workshop group, choosing a slot which fits within your timetable. Information as to how to do this will be provided. Note – some students will be preassigned.

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

SmartBook: Online assignments (within the McGrawHill online platform) are self-directed study sessions which you must complete as part of your continuous assessment. This will utilise SmartBook 2.0 and will align with lecture topics being covered. Assignments are scheduled for completion throughout the semester – see schedule below. Students must complete these sessions on time by the relevant deadline and they contribute towards your continuous assessment mark.

McGrawHill Assignments: Online chemistry platform for self-directed Learning via SmartBook assignments based on e book (Chemistry, Chang) and tutorial questions on topics aligned with lectures. See link via Moodle or login at <https://connect.mheducation.com/>. This is a key part of your continuous assessment marks (worth 20% of the module).



Registration is the responsibility of each student and needs to be completed at the beginning of Semester 1 through the links and instructions on the CH101 Moodle page.

MAP: The Maynooth Access Programme was established to encourage under-represented groups to consider Higher Education as a real option and provide access routes and post entry supports. The office coordinates a range of supports that promote independence and help students reach their full academic potential. [Access Office | Maynooth University](#). If you are a registered access student, you can review your disability supports and exam accommodations by logging into MU Student Web <https://studentweb.nuim.ie/>

Module: A self-contained unit of teaching and learning, which is usually studied over one semester. Each module has a credit value.

Moodle: Virtual learning environment – a platform which allows lecturers to share module materials, post announcements for students, and run quizzes and surveys. It also includes discussion forums and various other module tools. Lecturer Announcements will also be made through Moodle and it is your responsibility to ensure you check regularly for updates/information.

Past Papers: Past exam papers are available at <https://www.maynoothuniversity.ie/library/exam-papers> and can be used to get an idea of the type of exam questions that are asked in chemistry modules CH101 and CH102.

Practicals: Practical (or laboratory) classes are of two- or three-hour duration and involve carrying out selected experiments, examining scientific material and getting hands-on experience of practical subjects. Attendance is compulsory unless medically exempt. For Chemistry they will be held Wed, Thurs and Friday and you will register for a group on one of these days. They take place every second week alternating with **Workshops** (classroom-based activities – see below).

Practical Report: Information on the contents of the report, how it will be marked, and an example write up can be found in the laboratory manual (read it!). Student reports will be submitted electronically via an upload link available in Moodle. The report needs to be scanned, together with a cover sheet and collated as a single pdf complete with all sections including exercises. *No additional files will be accepted once the submission has been made so it is your responsibility that the report is complete prior to uploading.*

Programme: This is your course of study e.g. Bachelor of Science MH201. The programme description will include the subjects to be studied in each period of study or year, the modules which comprise the programme and the number of credits required in each subject and period of study.

Semester: The academic year is broken into two semesters. Semester 1 is from September to December and Semester 2 is from February to May.

Subject: A subject e.g. CHEMISTRY is focused on a specific discipline within a programme of study. A subject may have defined requirements which must be met in order to progress in that subject, or graduate with an award in that subject.

Weekly Planner: A weekly sheet/checklist will be available on Moodle each Friday in advance of the following week. You should check this carefully to help you plan where you need to be and what is due in and when.

Workshops: Classroom based sessions aligned with practicals comprising of tutor led chemistry problem solving session. These sessions are designed to be interactive and utilise models and hands-on demonstrations. For some workshops the assessment will include a set of questions/quiz at the end of the session to be uploaded via Moodle. Attendance is compulsory unless medically exempt.

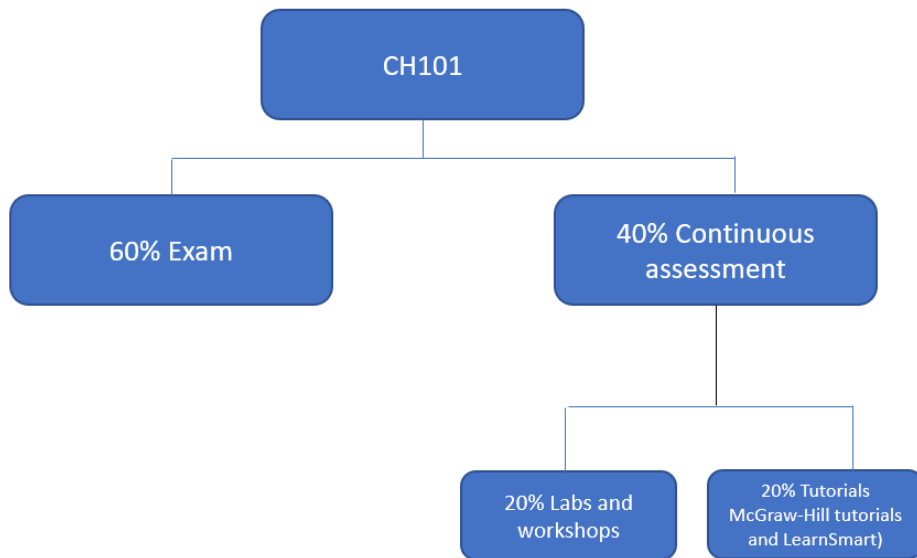
Workload/student effort: Student effort is the amount of time spent by you on university study, including both scheduled contact time (lectures, tutorials, laboratories, workshops, etc.) and individual (or group) study and is measured through the allocation of ECTS credits. Each credit equals approximately 25 hours (20-30 hours) of student effort.

Scanning software: Student submissions e.g. handwritten practical reports which are uploaded to Moodle (as pdfs) must be scanned using any of the options below. Please familiarise yourself with the process and become comfortable with it to avoid delays during submission.

[CamScanner -Free Scanner app to scan PDF&Documents – Apps on Google Play](#)

[Microsoft Lens - PDF Scanner – Apps on Google Play](#)

The diagram below gives an overview of the breakdown of the module CH101 (and CH102).



Note that you cannot repeat the continuous assessment, and not passing this component (pass mark 40%) leads to a cap of your module mark at 35%.

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Module CH101 / CH101P

Course Lecturers:

Dr Tobias Krämer (1st year coordinator CH101 and CH101P)
Dr Eithne Dempsey (1st year coordinator CH102 and CH102P)
Ms. Maryanne Dalton / Professor John Lowry
Dr. Roisin O'Flaherty

Course Content:

This module covers these important areas in chemistry:

(i) Introduction to Chemistry

Elements and their physical characteristics. Introduction to Atomic Theory - physical mixtures versus chemical compounds. Covalent and Ionic bonding, the naming of chemical compounds, expression of chemical reactions. The mole concept. The chemical equation. Relative atomic mass. Stoichiometric calculation and balancing chemical equations using mole quantities. The ideal gas equation and units. Empirical and molecular formulae of compounds from elemental analysis. The determination of relative atomic mass from chemical reaction data. Solutions, concentration, molarity. Calculations using titrimetric data. Stoichiometric calculations for reactions involving solid, dissolved and gaseous reagents. Metatheses reactions and solubility rules.

(ii) Chemistry in Solution

Acid and base reactions: Lowry-Brønsted theory of acids and bases; Strong and weak acids; pH of strong and weak acids/bases; Titration curves; Indicators; Buffer Solutions; pH of salt solutions. Redox reactions: Concept of oxidation state and reactions involving a change in oxidation state.

(iii) Atoms, Molecules and the Periodic Table

The topics covered in this section are: Historical development of atomic structure; Bohr theory; Ionization potentials; Atomic quantum number; Aufbau principle; Electronic basis of the Periodic Table; Groups, periods and blocks; Basic chemistry of the elements based on the electronic structures of atoms; Electronegativities; Wave mechanical theory of the H-atom; Schrödinger's equation (angular and radial functions, radial distribution functions); Shapes of orbitals; Pauli principle, electron spin and Hund's rules; Simple concepts of chemical bond formation (ionic/covalent bonds); Lewis model; Valence shell electron-pair repulsion (VSEPR) theory; Orbital hybridisation and the prediction of geometries for polyatomic molecules.

(iv) Physical Trends in the Periodic Table.

Atomic and ionic sizes, ionisation energy, electron affinity, electronegativity; Variation in the type of compound formed across the table – some relationships between position on the periodic table and bond strength.

Module CH102 / CH102P

Course Lecturers:

Dr Eithne Dempsey (1st year coordinator CH102 and CH102P)

Ms. Maryanne Dalton / Professor John Lowry

Dr Robert Elmes

Dr Denise Rooney

Course Content:

This module explores four important areas in chemistry:

(i) Thermodynamics and Equilibrium

The course starts with the concept of internal energy and changes in the internal energy of reactants and products as a reaction proceeds. The enthalpy function, exothermic and endothermic reactions, Hess's law and bond energies are introduced. The concept of chemical equilibrium and the equilibrium constant is then introduced.

(ii) Chemical Trends in the Periodic Table

General properties of metals, non-metals and metalloids. Metal and non-metal oxides, and oxide trends across/down the Periodic Table. Chemical Group trends in the s-Block metals, including reactions with water, formation of various oxyanions, characteristic flame colours. Chemistry of hydrogen. P-Block chemistry: sequential Group discussion (Groups 18-13) to include outer electronic configurations for the Groups and typical chemical reactions of selected main members of the Groups.

(iii) Chemical Kinetics

This course starts with the introduction of the rate of a reaction and how this can be measured. Then, material on the rate law, reaction order, the Arrhenius equation, the activation energy and the influence of temperature on the rate of a reaction is covered.

(iv) Organic Chemistry

Material covered includes: Chemistry of alkanes, alkenes and alkynes; Cycloalkanes; Nucleophilic substitution reactions; Elimination reactions; Chirality and the CIP rules; Alcohols, ethers and amines.

Lecture Timetable 2021 – 2022

CH101 and CH101P– Semester One LECTURE locations and times				
		Online delivery	Online delivery	Online delivery
Week	Date	Tuesday 10am	Tuesday 1pm	Wednesday 1pm
2	September 28 & 29	CH101 Introduction	Basic Concepts	Basic Concepts
3	October 5 & 6	Basic Concepts	Basic Concepts	Basic Concepts
4	October 12 & 13	Basic Concepts	Basic Concepts	Basic Concepts
5	October 19 & 20	Acids & Bases	Acids & Bases	Acids & Bases
STUDY PERIOD - Monday 25th October – Friday 29th October 2021				
7	November 2 & 3	Acids & Bases	Acids & Bases	Acids & Bases
8	November 9 & 10	Acids & Bases	Acids & Bases	Atoms & Molecules
9	November 16 & 17	Atoms & Molecules	Atoms & Molecules	Atoms & Molecules
10	November 23 & 24	Atoms & Molecules	Atoms & Molecules	Atoms & Molecules
11	November 30 & December 1	Atoms & Molecules	Atoms & Molecules	Atoms & Molecules
12	December 7 & 8	Physical Trends in Periodic Table	Physical Trends in Periodic Table	Physical Trends in Periodic Table
13	December 14 & 15	Physical Trends in Periodic Table	Physical Trends in Periodic Table	Physical Trends in Periodic Table
CHRISTMAS VACATION - Monday 20th December – Friday 31st December 2021 (inclusive)				
STUDY PERIOD - Monday 3rd January – Thursday 6th January 2022				
Commencement of First Semester Examinations – Friday 7th January 2022				

CH102 and CH102P– Semester Two LECTURE locations and times				
Week	Date	Tuesday 10am	Tuesday 1pm	Wednesday 1pm
		Thermodynamics & Equilibrium	Thermodynamics & Equilibrium	Thermodynamics & Equilibrium
		Thermodynamics & Equilibrium	Thermodynamics & Equilibrium	Thermodynamics & Equilibrium
		Chemical Kinetics	Chemical Kinetics	Chemical Kinetics
		Chemical Kinetics	Chemical Kinetics	Chemical Kinetics
		Organic Chemistry	Organic Chemistry	Organic Chemistry
		Organic Chemistry	Organic Chemistry	Organic Chemistry
STUDY WEEK - Monday 14th – Friday 18th March 2022				
		Organic Chemistry	Organic Chemistry	Organic Chemistry
		Organic Chemistry	Organic Chemistry	Organic Chemistry
EASTER WEEK - Monday 18th – Friday 22nd April 2022				
		Periodic Table	Periodic Table	Periodic Table
		Periodic Table	Periodic Table	Periodic Table
STUDY PERIOD - Monday 9th – Thursday 12th May 2022				
Commencement of Second Semester Examinations – Friday 13th May 2022				

Semester One

Introduction course and Basic Concepts course given by Dr Eithne Dempsey.
 Acids & Bases (Chemistry in Solution) course given by Ms. Maryanne Dalton.
 Atoms & Molecules course given by Dr Roisin O'Flaherty
 Physical Trends in the Periodic Table course given by Dr Tobias Krämer.

Semester Two

Thermodynamics and Equilibrium course given by Dr Eithne Dempsey.
 Chemical Kinetics course given by Ms. Maryanne Dalton.
 Organic Chemistry course given by Dr Robert Elmes.
 Chemistry and the Periodic Table course given by Prof. Denise Rooney

1st Year Practical & Workshop Timetable 2021/2022

Semester 1

Lab Session	Dates (Days are Wednesday, Thursday or Friday)	Group (Group A2P are only Pharmaceutical Chemistry students taking CH101P and CH102P).	Name of Practical
	By Sept 24 th latest	Sign-up	Online registration for practical and workshop groups
	Sept 29, 30, Oct 1 st	All Groups	Chemistry Lab Induction and Tour
Practical Sessions			
1	Oct 6, 7, 8	A1 B1 C1 D1 E1	Precision in Volumetric Analysis
1	Oct 13, 14, 15	A2P B2 C2 D2 E2	Precision in Volumetric Analysis
2	Oct 20, 21, 22	A1 B1 C1 D1 E1	Acid/Base Titrations using Std solutions
Study week			
2	Nov 3, 4, 5	A2P B2 C2 D2 E2	Acid/Base Titrations using Std solutions
3	Nov 10, 11, 12	A1 B1 C1 D1 E1	Potentiometric Acid-Base Titrations
3	Nov 17, 18, 19	A2P B2 C2 D2 E2	Potentiometric Acid-Base Titrations
4	Nov 24, 25, 26	A1 B1 C1 D1 E1	Ionic Compounds: Their Dissolution, Precipitation and Solubility
4	Dec 1, 2, 3	A2P B2 C2 D2 E2	Ionic Compounds: Their Dissolution, Precipitation and Solubility
5	Dec 8, 9, 10	A1 B1 C1 D1 E1	Oxidation-Reduction Reactions Involving a Standard Ethanedioate
5	Dec 15, 16, 17	A2P B2 C2 D2 E2	Oxidation-Reduction Reactions Involving a Standard Ethanedioate
Workshop Sessions			
1	Oct 6, 7, 8	A2P B2 C2 D2 E2	Introduction to Chemistry
1	Oct 13, 14, 15	A1 B1 C1 D1 E1	Introduction to Chemistry
2	Oct 20, 21, 22	A2P B2 C2 D2 E2	Stoichiometry
Study week			
2	Nov 3, 4, 5	A1 B1 C1 D1 E1	Stoichiometry
3	Nov 10, 11, 12	A2P B2 C2 D2 E2	Reactions in Aqueous Solution
3	Nov 17, 18, 19	A1 B1 C1 D1 E1	Reactions in Aqueous Solution
4	Nov 24, 25, 26	A2P B2 C2 D2 E2	Atomic Orbitals
4	Dec 1, 2, 3	A1 B1 C1 D1 E1	Atomic Orbitals
5	Dec 8, 9, 10	A2P B2 C2 D2 E2	VSEPR
5	Dec 15, 16, 17	A1 B1 C1 D1 E1	VSEPR

Practical location: Dept. Chemistry, Science Building (North Campus)

Wednesday		No AM Lab	Wednesday	PM	3pm – 5pm
Thursday	AM	10am – 12.00	Thursday	PM	3pm – 5pm
Friday	AM	10am – 12.00	Friday	PM	2pm – 4pm

Workshop location: CH101, Callan Building Computer Lab CBCL1 (North Campus)

Wednesday		No AM Workshop	Wednesday	PM	3pm – 5pm
Thursday	AM	10am – 12.00	Thursday	PM	3pm – 5pm
Friday	AM	10am – 12.00	Friday	PM	2pm – 4pm

PLEASE NOTE:

CH101 & CH102 Practicals are **2 hours** in duration

CH101P & CH102P Practicals are **3 hours** in duration

All workshops are 2 hours in duration

[Campus Map | Maynooth University](#)

[Model \(maynoothuniversity.ie\)](http://maynoothuniversity.ie)

McGrawHill Assignments and Tutorials

Semester 1

Online Platform and Time (Link on CH101 Moodle Page)	Deadline for Submission	Learnsmart Assignment and Tutorial Topic
McGrawHill Connect	Friday Oct. 22 nd 5pm	Basic Concepts
McGrawHill Connect	Friday Nov. 19 th 5pm	Acids and Bases
McGrawHill Connect	Friday Dec. 3 rd 5pm	Atoms and Molecules Part 1
McGrawHill Connect	Friday Dec 10 th 5pm	Atoms and Molecules Part 2
McGrawHill Connect	Friday Dec. 24 th 5 pm	Physical Trends in the Periodic Table

McGrawHill Tutorial Support Online Drop in Sessions

Semester 1

Week Number	Online Platform	Date	Tutorial Topic
First Semester			
3	Microsoft Teams	Mon. October 4 @ 4.00 Tues. October 5 @ 11.00	Basic Concepts
4	Microsoft Teams	Mon. October 11 @ 4.00 Tues. October 12 @ 11.00	Basic Concepts
5	Microsoft Teams	Mon. October 18 @ 4.00 Tues. October 19 @ 11.00	Acids and Bases
Study Week – Monday 25th October to Friday 29th October 2022			
7	Microsoft Teams	Mon. November 1 @ 4.00 Tues. November 2 @ 11.00	Acids and Bases
8	Microsoft Teams	Mon. November 8 @ 4.00 Tues. November 9 @ 11.00	Atoms and Molecules Part 1
9	Microsoft Teams	Mon. November 15 @ 4.00 Tues. November 16 @ 11.00	Atoms and Molecules Part 1
10	Microsoft Teams	Mon. November 22 @ 4.00 Tues. November 23 @ 11.00	Atoms and Molecules Part 2
11	Microsoft Teams	Mon. November 29 @ 4.00 Tues. November 30 @ 11.00	Atoms and Molecules Part 2
12	Microsoft Teams	Mon. December 6 @ 4.00 Tues. December 7 @ 11.00	Physical Trends in the Periodic Table
13	Microsoft Teams	Mon. December 13 @ 4.00 Tues. December 14 @ 11.00	Physical Trends in the Periodic Table

1st Year Practical & Workshop Timetable 2021/2022

Semester 2

Lab Session	Dates (Days are Wednesday, Thursday or Friday)	Group (Group A2P are only Pharmaceutical Chemistry students taking CH101P and CH102P).	Name of Practical
Practical sessions			
1	Feb. 2, 3, 4	A1 B1 C1 D1 E1	Inorganic Chemical Puzzle
1	Feb. 9, 10, 11	A2P B2 C2 D2 E2	Inorganic Chemical Puzzle
2	Feb 16, 17, 18	A1 B1 C1 D1 E1	Enthalpy of Neutralisation of Acids and Bases
2	Feb 23, 24, 25	A2P B2 C2 D2 E2	Enthalpy of Neutralisation of Acids and Bases
3	March 2, 3, 4	A1 B1 C1 D1 E1	Reaction Kinetics: Aldo Condensation of Acetone with Benzaldehyde
3	March 9, 10, 11	A2P B2 C2 D2 E2	Reaction Kinetics: Aldo Condensation of Acetone with Benzaldehyde
Study Week			
4	March 23, 24, 25	A1 B1 C1 D1 E1	Synthesis of Metacetamol
4	March 30, 31, April 1st	A2P B2 C2 D2 E2	Synthesis of Metacetamol
5	April 6, 7, 8	A1 B1 C1 D1 E1	Purification and Characterisation of Metacetamol
<i>Easter Break</i>			
5	April 27, 28, 29	A2P B2 C2 D2 E2	Purification and Characterisation of Metacetamol
6	May 4, 5, 6	All Groups	Chemical Trends in the Periodic Table
Workshop Sessions			
1	Feb. 2, 3, 4	A2P B2 C2 D2 E2	Virtual Labs Recap on Stoichiometry and Reactions in Solution
1	Feb. 9, 10, 11	A1 B1 C1 D1 E1	Virtual Labs - Recap on Stoichiometry and Reactions in Solution
2	Feb 16, 17, 18	A2P B2 C2 D2 E2	Thermochemistry Workshop/Virtual Lab
2	Feb 23, 24, 25	A1 B1 C1 D1 E1	Thermochemistry Workshop/ Virtual Lab
3	March 2, 3, 4	A2P B2 C2 D2 E2	Kinetics Workshop
3	March 9, 10, 11	A1 B1 C1 D1 E1	Kinetics Workshop
Study week			
4	March 23, 24, 25	A2P B2 C2 D2 E2	3D Structures of Organic Compounds
4	March 30, 31, April 1st	A1 B1 C1 D1 E1	3D Structures of Organic Compounds
5	April 6, 7, 8	A2P B2 C2 D2 E2	Curly Arrows in Organic Chemistry
<i>Easter Break</i>			
5	April 27, 28, 29	A1, B1, C1, D1, E1	Curly Arrows in Organic Chemistry
6	May 4, 5, 6	All Groups	Chemical Trends in the Periodic Table

Practical location: Dept. Chemistry, Science Building (North Campus)

Wednesday		No AM Lab	Wednesday	PM	3pm – 5pm
Thursday	AM	10am – 12.00	Thursday	PM	3pm – 5pm
Friday	AM	10am – 12.00	Friday	PM	2pm – 4pm

Workshop locations CH102, Long Corridor (South Campus) & Callan Building Computer Lab CBCL1 (North Campus)

Please note the venue change on Wednesday

Wednesday		No AM Workshop	Wednesday	PM	3pm – 5pm (Long Corridor)
Thursday	AM	10am – 12.00	Thursday	PM	3pm – 5pm
Friday	AM	10am – 12.00	Friday	PM	2pm – 4pm

PLEASE NOTE:

CH101 & CH102 Practicals are **2 hours** in duration
 CH101P & CH102P Practicals are **3 hours** in duration
 All workshops are 2 hours in duration

[Campus Map | Maynooth University](#)

[Model \(maynoothuniversity.ie\)](http://www.maynoothuniversity.ie)

McGrawHill Learnsmart Assignments and Tutorials Semester 2

Online Platform and Time (Link on CH102 Moodle Page)	Deadline for Submission	Learnsmart Assignment and Tutorial Topic
McGrawHill Connect		Thermodynamics and Equilibrium
McGrawHill Connect		Chemical Kinetics
McGrawHill Connect		Organic Chemistry 1
McGrawHill Connect		Organic Chemistry 2
McGrawHill Connect		Periodic Table

McGrawHill Tutorial Support Online Drop in Sessions Semester 2

Week Number	Online Platform	Date	Tutorial Description
Second Semester			
	Microsoft Teams		Thermodynamics and Equilibrium
	Microsoft Teams		Thermodynamics and Equilibrium
	Microsoft Teams		Chemical Kinetics
	Microsoft Teams		Chemical Kinetics
	Microsoft Teams		Organic Chemistry 1
	Microsoft Teams		Organic Chemistry 1
	Microsoft Teams		Organic Chemistry 2
	Microsoft Teams		Organic Chemistry 2
	Microsoft Teams		Periodic Table
	Microsoft Teams		Periodic Table

The above dates will be finalised prior to Semester 2.

Coordinators:

CH101 and CH101P Module Coordinator:



Dr Tobias Krämer
Room Number: 2.110
1st Floor, Callan Building

Contact Details:

Email: Chemistry.firstyear@mu.ie
Phone: +353 1 4747517

Consultation Times: Email for appointment.

CH102 and CH102P Module Coordinator:



Dr Eithne Dempsey
Room Number: 15
(MAP Lodge – Beside Student Services)

Contact Details:

Email: Chemistry.firstyear@mu.ie
Phone: +353 1 4747172

Consultation Times: Email for appointment.

International Student Coordinator:



Mr. Stephen Barrett
Room Number: 2.71
(Chemistry Department – Office Corridor)

Contact Details:

Email: Stephen.barrett@mu.ie
Phone: +353 1 7084615

Consultation Times: Email for appointment.

MAP Advisor:



Professor Frances Heaney
Room Number: 2.58
(Chemistry Department – Office Corridor)

Contact Details:

Email: Frances.heaney@mu.ie
Phone: +353 1 7083802

Consultation Times: Email for appointment.

Students wishing to make appointments to see coordinators outside of designated hours or indeed wishing to meet with any member of staff may contact them directly (contact details for all staff members are available on the departmental website: www.chemistry.nuim.ie) to schedule a mutually suitable time. **Only a Maynooth University email account should be used to contact any member of staff in the Chemistry Department.**

Any student wishing to make an appointment to see the Head of Department, Professor Denise Rooney, must make an appointment through the Departmental Administrative Office either by phone +353 1 7086060 / 7083770 or email: chemistry.department@mu.ie.

Programme Advisory Office

Brief Introduction to Programme Advisory Office:

The Programme Advisory Office is available to advise you on any choices you might have to make related to your programme including subject choice.

The Programme Advisory Office can be contacted via

Email: programme.choices@mu.ie

Telephone: 01 474 7428

In person: please see their website for information about meeting a member of the Programme Advisory Team: www.maynoothuniversity.ie/programme-advisory-office

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 consists of the Programme Advisor, Caitriona McGrattan, who is supported by a team of PG students during peak times.

Incoming first year students are briefed by the Programme Advisor during Welcome Week about the programme choices you will be asked to make during your academic journey at Maynooth University. The Programme Advisory Team are available in person to answer any follow up questions students may have: details of times and location are available on the PAO website. Continuing second year students may also avail of the service if you are unsure about your programme options for example if you have any questions about the difference in major/minor pathways or whether or not to choose to take an Elective.

REGULATIONS CONCERNING PRACTICAL CLASSES

Attendance

- (1) Undergraduate chemistry is a largely practical subject. It is strongly recommended that you attend **all** classes and perform the exercises for each class in order to pass the module.
- (2) Practical Classes will begin at exactly the allocated time and students are expected to be present and prepared with necessary safety protection by this time. For health and safety reasons **no** admittance will be allowed after these times.
- (3) If you are absent from a practical lab or workshop session, a *medical certificate* and completed *lab absence form* (available from Moodle) must be emailed to the departmental office (chemistry.department@mu.ie) **within one week of absence**. Failure to present a medical certificate (or relevant equivalent) for a missed practical lab session / workshop within a reasonable period of time will result in a zero mark being awarded for that session.
No back dated medical certificates will be accepted.
Only certificates signed by a Medical Doctor or Dentist will be accepted.
- (4) We fully encourage attendance at laboratory sessions. The final mark for the combined practical lab and workshop sessions will be averaged over the best 8 marks (out of 10 in total). More than two absences per semester, regardless, of medical certificates will negatively impact on the average mark of this continuous assessment component. This may ultimately result in not meeting the 40% pass standard for this component of the module. In such cases the final mark of the module will be capped at 35%, resulting in failure of the module. *However, it is at the discretion of the module coordinator to remove this cap based on the lab absence reports.*
- (5) **Only ONE Inter-Varsity sports form, per semester, will be accepted as an absence.**
- (6) Any student who is in receipt of a Maynooth University sports scholarship **must** inform the Department at the beginning of Semester 1 and provide a confirmation letter from their corresponding scholarship co-ordinator.

Plagiarism

Plagiarism is the passing off of another person's work as your own. It includes copying without acknowledgement from a published source (print or electronic), or from unpublished sources (e.g. another student's essay, write-up or notes). Plagiarism occurs when material is copied word for word, but not only in that circumstance. Plagiarism also occurs when the substance or argument of a text is copied even with some verbal alterations, such as in paraphrase or translation, without acknowledgement. Plagiarism includes unacknowledged use of material from books or periodicals, from the internet, from grind tutors, or from other students, without full acknowledgement of the sources.

Please see below for more information on Plagiarism.

- (7) Plagiarism in any form will not be tolerated. The department reserves the right at all times to fail any student who they believe to have dishonestly obtained grades pertaining to any area of their course work. In serious cases, the plagiarism will be reported to the Supervisor of Examinations and Committee of Discipline.

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

Behaviour

- (8) Students are expected to behave in a respectful and mannerly fashion at all times both to staff and fellow students. Bullying or harassment of any sort **is not** tolerated and will be dealt in an appropriate and stern manner. In serious cases, offenders may be removed from the department.

Results

- (9) Marks are not given for laboratory reports handed in for classes from which you have been absent or for tutorials from which you have been absent.
- (10) The pass standard is 40% for the *combined* mark accrued in practical laboratory/workshop classes and McGraw Connect Learnsmart/online tutorials. The combined practical and tutorial component of continuous assessment, is a standalone component and must be passed independently of the exam-style assessments.
- (11) As with the current Maynooth University grading systems, any mark below 40% in the combined practical and tutorial classes will result in the final mark of the module being capped at 35% resulting in failure of the associated module.

NOTE: While this does not affect any pass marks that you may have obtained in other modules, it may impact your ability to progress into the following year of your studies in Chemistry.

Laboratory Reports

- (12) Laboratory reports must be submitted for correction prior to your next assigned practical session. Your reports must be presented in the form of formal records of each experiment, i.e. with a description of the chemistry involved and the method applied, all the results obtained and a clear exposition of their processing together with any conclusions or other appropriate observations that you may have noted. Any exercises given in the laboratory manual accompanying the practical details must be completed and returned along with the laboratory report.
- (13) It is your responsibility to ensure that all reports are submitted via Moodle by the set weekly deadline. This will be through the Assignment upload link on Moodle.
- (14) Each student has a responsibility to ensure that all laboratory reports are returned with a definite mark/grade by their demonstrator. Any errors should be made known immediately to the demonstrator and/or laboratory co-ordinator. ***Mistakes cannot be rectified once grades are uploaded onto the University system!***
- (15) Late submissions:
- Lab reports that are submitted after the assigned deadline will have a penalty applied (depending on the degree of lateness).
 - If a student misses a submission deadline, the lab report must be submitted through Moodle. In addition, a notification of submission & the late submission form must be emailed to chemistry.department@mu.ie, at the earliest occasion. If a medical cert is provided the report will be marked with no penalty
 - Decisions on late write-ups for which the student claims legitimate reasons, (excluding Medical Certificates) are left at the discretion of the module coordinator.

Health and Safety

- (16) Health and safety procedures must be adhered to at all times. Instruction from demonstrators, tutors and technical staff must be obeyed at all times. Failure to do so will result in automatic expulsion from the laboratory or tutorial and the forfeit of any grades associated with that session

and an “unexplained absence” will be awarded. **Repeat offenders will receive an automatic failure of continuous assessment.**

- (17) The Chemistry Department would appreciate if any student with a medical condition/allergy, or who is pregnant/breastfeeding, would inform the department while filling out the on-line ‘First Year Chemistry Safety Test’. If the medical condition changes during the year, please inform your laboratory technician or laboratory co-ordinator.

All staff involved in this process will respect the confidentiality of the students, ensuring that this information is provided to the relevant personnel on a need-to-know basis only.

Departmental Registration

All students must register with the department for practical classes and tutorial classes. Students will be informed of relevant registration dates, costs etc. and given any necessary forms, in lectures. The onus is on the student to ensure that they register for these **compulsory course components**. Students should carefully note the times of any workshop / practicals they have registered for in order to prevent clashes between subjects.

Student Attendance

With reference to the University regulations regarding attendance, quoting directly from the University Student Handbook,; “A student entered for a course or courses is **expected** to attend **all** lectures, tutorials, laboratory classes and all other requirements given in each course for which he/she is registered.”

In relation to practical and tutorial sessions, poor attendance alone can result in module failure and potentially total failure of an academic year, as previously detailed in the section on continuous assessment. It is no more obvious than here the importance of attending and completing all necessary coursework and the very serious impact lack of attendance can have on a student’s degree.

As such, the department naturally takes a strong view on attendance. We believe that the benefits of good attendance is not alone evidenced in better module marks at the end of semester examinations, but it also increases a student’s potential for academic success during their progression through their degree and beyond.

Student Conduct

Students are expected to conduct themselves in a considerate and respectful manner at all times, both towards all staff members and fellow classmates.

Talking in lectures will result in immediate confiscation of students cards. In these circumstances, students will be required to make an appointment with the Head of Department to explain themselves in order to retrieve their card.

Students should follow the instructions of their demonstrators and technical staff **at all times** while in laboratory practical sessions.

Rudeness and disregard for health and safety regulations will not be tolerated under any circumstances.

Staff - Student Communications

Website:

The department's website is located at <http://maynoothuniversity.ie/chemistry> and is an important source of information for both undergraduate students and potential postgraduate students.

Notice boards:

There are undergraduate notice boards as well as a general notice board within the chemistry department and these should be consulted on a regular basis as they may contain important information in the shape of notices, relevant advertisements etc. The 1st year notice board is located on the ground floor of the department outside of the 1st year teaching laboratory.

E-Mail Account:

All students are assigned a Maynooth University e-mail account, **only this email account should be used to contact any member of staff in the Chemistry department.** Students should also check this regularly, as the Department and other University offices also use e-mail to communicate information to students. **Please Note:** *Email account details will be required for on-line tutorial registration.*

Access to staff:

Students are encouraged to consult with lecturers on academic or other matters concerning their work in university and their general progress as students. All year coordinators have specific times set aside to meet with students, and these times are indicated outside of their offices (the consultation times of the 1st year coordinators are also indicated in this handbook on pg 9). If any of the times posted clash with lectures, labs or tutorials, you can ask for an appointment to see the lecturer at a mutually convenient time. Coordinators are there as sources of general information and guidance and are happy to help with problems concerning a student's academic studies as much as is possible. It is important to inform staff of any significant ongoing issues, personal or otherwise, that may be affecting your studies, so they can help you deal with such issues by directing you to the proper channels e.g. counsellors, medical centre staff, academic advisory office etc.

Contact details for all of our staff are available on our website cited above.

For some modules, lecturers will also be making use of Moodle, the university's virtual learning environment and may be contactable directly through that system.

Moodle:

Moodle is Maynooth University's online learning system. It acts as a supplement to face-to-face learning, allowing students to access further material and/or lecture material outside of the lecture hall environment. It is also used to post up tutorial exercises and important notifications so it is a good practice to check the system daily.

Module/Course Evaluations:

Towards the end of lecture courses, students may be invited by the lecturer to complete a questionnaire evaluating various aspects of the course. Please complete this form as fully as you can. Lecturers are pleased to have the benefit of your comments in helping them to assess their work and to integrate improvements.

Email Etiquette

You should use your MU email account ONLY when communicating with Lecturers, Technical and Administrative staff. We will communicate with you by email through your MU email address only.

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

All staff, lecturers, demonstrators and tutors should be addressed with the appropriate title.

Student name, student number, year, module and group **MUST** be provided in the subject line of your email.

Students must ensure that their reply email address is functional.

The tone of any communication must be respectful.

Please provide sufficient detail for us to be able to address your query efficiently.

The address chemistry.firstyear@mu.ie should be used for general queries.

University Marks & Standards

The following is a link to the University Marks and Standards document to be found on the examinations office website:

[MU Marks and Standards - Ver 25May2021.pdf \(maynoothuniversity.ie\)](https://www.maynoothuniversity.ie/sites/default/files/assets/document/MU%20Marks%20and%20Standards%20-%20Ver%2025May2021.pdf).

[An Introduction to Marks and Standards, a guide for Students \(Ver 03April2020\).pdf \(maynoothuniversity.ie\)](https://www.maynoothuniversity.ie/sites/default/files/assets/document/An%20Introduction%20to%20Marks%20and%20Standards%20a%20guide%20for%20Students%20(Ver%2003April2020).pdf)

Policy on Plagiarism

<https://www.maynoothuniversity.ie/sites/default/files/assets/document/MU%20Policy%20on%20Plagiarism%20%28December%202020%29.pdf>

Past Examination Papers

Examination papers from previous years are available on the Maynooth University Library website at <http://www.nuim.ie/cgi-bin/library/index.cgi>

You are advised that past examination papers are merely a guide and may not provide a reliable indication to the format or content of future examinations. Courses are revised frequently, so a better guide to the kind of questions you should be able to deal with is provided by the tutorial exercises and any class assignments.

Student facilities – public access computer rooms

Location of Computer Rooms:

Public Access Computer Rooms (North Campus)

Arts Facility

Rye Hall

Callan Foyer

Internet Pod

Public Access Computer Rooms (South Campus)

Long Corridor *[In Stoyte house - location for 1st year tutorial computer sessions]*

Computer Centre Teaching Room 1 (CS1)

For details on this service please refer to the Computer Centre website.

<http://computercentre.nuim.ie/students/pacrs.shtml>

GREEN LABS PROJECT



Here at Maynooth University we are looking to develop a culture of sustainability through Science. Laboratories are one of the most resource intensive spaces to work, using energy, water and chemicals. Each of us has personal responsibility to reduce, reuse and recycle where we can.



This icon is used throughout the 1st year chemistry manual at points where we can take individual control of resources.

EQUALITY, DIVERSITY & INCLUSION

Maynooth University is committed to being a University community that promotes and advances equality, respects and values diversity, and develops a collegiate environment of excellence with equality, in which the human rights, the responsibilities and diversity of all students and staff are recognised and respected.

The University values the enrichment that comes from a diverse community of students and staff and seeks to promote equality and prevent discrimination in the access, experience, progression and achievement of all students and staff through developing and implementing clear policies, processes, practices providing effective support to help realise equality in student experience and in employment.

The Office of the Vice President for Equality and Diversity has been developed therefore, to realise the University's core values of equality, inclusiveness, social justice, dignity and respect, and to fulfil its obligations in these areas.

The Department of Chemistry fully supports the work of The Office of the President of Equality & Diversity in the promotion and advancement of the University's EDI core values.

Further information, including EDI policies, are available at: The Office of the Vice President for Equality & Diversity <https://www.maynoothuniversity.ie/edi>

The Equality Officer is available (by appointment) to talk in relation to any queries.

Office Hours: Mondays 2pm-4pm on Microsoft Teams (book via <https://www.maynoothuniversity.ie/edi>)

[Appointments also available outside these hours:](#) email equality@mu.ie to book

The Athena SWAN Charter was launched in Ireland in 2015 to encourage and recognise commitment to advancing the careers of women in science, technology, engineering, maths and medicine (STEMM) in higher education and research. The charter has since been expanded to recognise work undertaken in arts, humanities, social sciences, business and law (AHSBBL), and staff working in professional, managerial and support roles. The charter framework also recognises work undertaken to address gender equality more broadly, including consideration of the experience of trans staff and students, as well as the underrepresentation of men in particular disciplines.

In 2018, Maynooth University was the first HEI in Ireland to achieve an Athena SWAN Bronze Institution Award under the expanded charter, in recognition of its commitment to progressing gender and intersectional equality for staff and students.



In addition, the MU Department of Chemistry has achieved an Athena SWAN Bronze Award, which recognises work undertaken to advance gender equality for staff and students at departmental level. The Department of Chemistry remains committed to further promoting a culture of equality and inclusivity to the benefit of all departmental staff and students.

The Department of Chemistry has a four-year Gender Equality Action Plan which sets out specified actions and targets for the continued advancement of gender equality for all staff and students.



Maynooth University Student Services



For more information:

www.maynoothuniversity.ie/student-services

Or email: student.services@mu.ie

