



Trinity College Dublin

Coláiste na Tríonóide, Baile Átha Cliath

The University of Dublin

School of Chemistry

Junior Sophister Handbook 2019/20

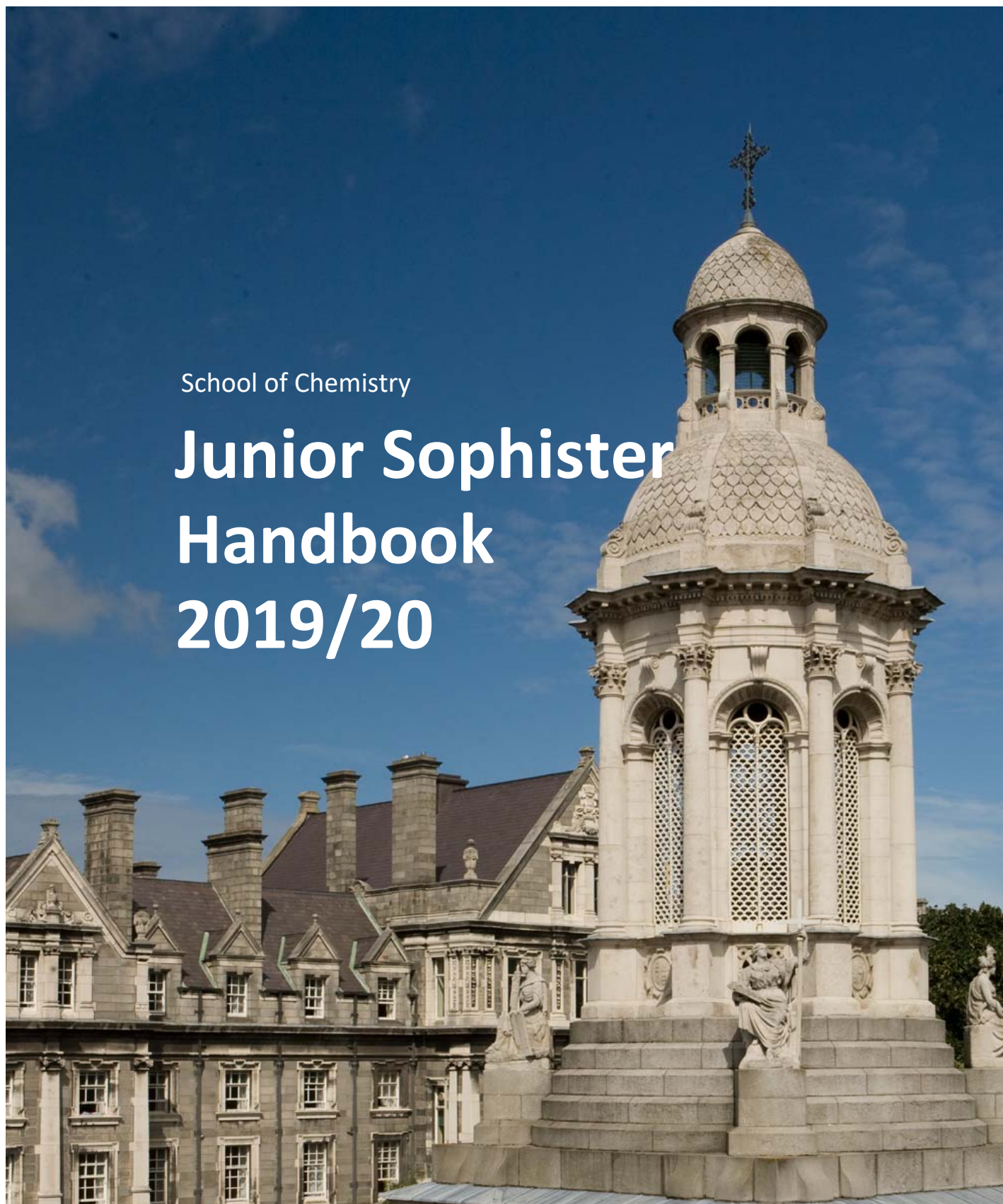


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Alternative formats of this Handbook can be made available upon request. A large-print hard copy is also available to view in the School Office.

Course-specific webpages

Each course offered by the School has a dedicated webpage. For those in N-PCAM, there is also a dedicated nanoscience website at <http://www.tcd.ie/nanoscience/>.

http://chemistry.tcd.ie/Study/current_students/undergraduate/chemistry/js/index.php

http://chemistry.tcd.ie/Study/current_students/undergraduate/medicinal-chemistry/js/index.php

http://chemistry.tcd.ie/Study/current_students/undergraduate/CMM/js/

and

http://chemistry.tcd.ie/Study/current_students/undergraduate/N-PCAM/index.php

Emergency Procedure

In the event of an emergency, dial Security Services on extension **1999**.

Security Services provide a 24-hour service to the college community, 365 days a year. They are the liaison to the Fire, Garda and Ambulance services and all staff and students are advised to phone extension 1999 (+353 1 896 1999) in case of an emergency.

Should you require any emergency or rescue services on campus, you must contact Security Services. This includes chemical spills, personal injury or first-aid assistance. It is recommended that all students save at least one ICE (in case of emergency) phone number in their mobile phones.

Contact Details

| Position | Person | E-mail | Phone |
|---|-----------------------|--|--------------|
| Head of School | Prof. Mike Lyons | headchem@tcd.ie | 896 1423 |
| Director of Teaching and Learning (DTLUG) | Prof. Eoin Scanlan | Eoin.Scanlan@tcd.ie | 896 2514 |
| Associate DTLUG | Prof. Yurii Gun'ko | igounko@tcd.ie | 896 3543 |
| JS Year Coordinator | Prof. Mike Southern | southerj@tcd.ie | 896 3411 |
| MedChem Coordinator | Prof. Mathias Senge | sengem@tcd.ie | 896 8537 |
| CMM Coordinator | Prof. Graeme Watson | watsong@tcd.ie | 896 1357 |
| N-PCAM Coordinator | Prof. Hongzhou Zhang | Hongzhou.Zhang@tcd.ie | 896 4655 |
| School Manager | Dr. Sinéad Boyce | sboyce@tcd.ie | 896 4587 |
| School Office | Ms. AnneMarie Farrell | farrea25@tcd.ie | 896 1726 |
| School Office | Mr. Ben Power | powerbe@tcd.ie | 896 2040 |
| Global Officer | Dr. Niamh McGoldrick | nmcgoldr@tcd.ie | 896 3463 |

Contact details for all staff in the School can be found at <http://chemistry.tcd.ie/staff/>

Information for all School of Chemistry JS Students

Junior Sophister 2019/20

Welcome to the School of Chemistry for your JS year. We hope that you have a wonderful experience in a year that is quite a transition from the earlier JF and SF years. The JS and SS years bring about more in-depth chemistry education than you have experienced before, with greater emphasis on theoretical as well as practical education and training. We wish you all the best for this academic year and the staff in the school look forward to working with you. The JS Year Coordinator is Prof. Mike Southern (southerj@tcd.ie).

Introduction to Chemistry at TCD

Chemistry holds a key position among the sciences. It involves the study of matter, i.e., the composition, structure and properties of substances and the changes they undergo. Life on earth owes its origin to a series of these chemical changes. Formal chemistry teaching in TCD commenced in August 1711 as part of the new School of Medicine. The main building includes two lecture theatres and four research laboratories. The Cocker laboratories were completed in 1997 and provide facilities for the teaching of preparative inorganic and organic chemistry. The Sami Nasr Institute for Advanced Materials (SNIAM) building, which was completed in 2000, provides *ca.* 1500 m² of accommodation for the School of Chemistry. This includes a Physical Chemistry teaching laboratory and six research laboratories that house *ca.* 40 researchers. This institute also houses the School of Physics. Computational Chemistry research is housed in the Lloyd Institute on a multidisciplinary computational-science floor comprising researchers from Mathematics, Physics, Chemistry and High Performance Computing. In addition, chemists play an important role in interdisciplinary research taking place in two of TCD's newest research institutes: (i) The Centre for Research on Adaptive Nanostructures and Nanodevices (CRANN), which was formally opened in January 2008 and (ii) the Trinity Biomedical Sciences Institute (TBSI), which was inaugurated in July 2011.

Moderatorships in Chemistry

The School of Chemistry currently offers four QQI-NFQ Level-8 moderatorships, namely Science (Chemistry), Medicinal Chemistry (MedChem), Chemistry with Molecular Modelling (CMM), and Nanoscience, Physics and Chemistry of Advanced Materials (N-PCAM), which is a shared course between the Schools of Physics and Chemistry. All of the direct-entry courses were developed in

response to changes in the modern subject and identified needs for graduates with special skills in Ireland.

Staff, Research and Facilities

The School currently has 25 academic staff and 14 technical staff. The School has an active research programme, with approximately 100 postgraduate students and postdoctoral researchers. They study a wide range of chemistry subjects in fields such as organic, inorganic, organometallic, physical, theoretical, medicinal, analytical, material, polymer, environmental, and supramolecular chemistry. Research income is earned from national, international and commercial sources and the School has held grants in all relevant research programmes funded by the EU.

The College also fosters an interdisciplinary approach to research, with members of the School having strong links with colleagues in the physical, technological and biological sciences both within College, nationally and internationally.

The School is well equipped for its research activities, having Bruker 600 and 400 MHz NMRs and access to an Agilent 400 MHz high-field multi-nuclear NMR, FTIR, dispersive IR and UV-Vis spectrometers, high performance liquid chromatography (HPLC) and gas chromatography (GC) equipment, a Bruker SMART Apex Kappa Duo, Bruker D8 Quest ECO single crystal and a Bruker D2 Phaser powder diffractometer, a Micromass LCTM (TOF) mass spectrometer, thermogravimetric analysis and differential scanning calorimetry, dynamic light scattering, several spectrofluorimeters for steady-state and time-resolved fluorescence measurements, circular and linear dichroism, and a large range of wave generators and potentiostats for cyclic voltammetry.

Lectures

Lectures should begin on the hour and end 50 minutes later. Timetables will be published through the portal <https://my.tcd.ie> and should be checked regularly for changes to the original schedule. Module descriptors and learning outcomes for your modules are available on Blackboard. Attendance at lectures may be recorded. Lecture notes/quizzes will be provided through Blackboard (<https://tcd.blackboard.com/webapps/login/>) and details related to fees, assessment,

exam timetables etc. can be found on the Academic Registry's website at

<https://www.tcd.ie/academicregistry/>.

Practicals

| | | | | | | | | | | | | |
|------|-----------|---|----|----------|----|----|---------------|------------------------|---|----|----|----|
| Week | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | ORGANIC (Lab marks combined with CHU33203) | | | | | STUDY WEEK | ORGANIC | INORGANIC (Lab marks combined with CHU33103) | | | |
| Week | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
| | INORGANIC | | | PHYSICAL | | | STUDY WEEK | QSAR LAB (CHU33441) | PHYSICAL (Lab marks combined with CHU33304) | | | |

| |
|---------------------|
| No Lab |
| CMM in CompLab |
| QSAR LAB (CHU33441) |

In the JS year, practical classes take place over one-and-a-half days each week. In **Semester 1** there are 6 weeks of organic chemistry and 4 weeks of inorganic chemistry in the Cocker lab; in **Semester 2**, there are 2 weeks of inorganic chemistry in the Cocker lab and 6 weeks of physical chemistry in the Physical Chemistry lab in the SNIAM building. Practical work is assessed in-course, with the lab marks obtained in each discipline contributing to 50% of the overall mark for the 10-ECTS modules CHU33103 (inorganic), CHU33203 (organic) and CHU33304 (physical). **Attendance** at chemistry practical classes is compulsory for students. **You may be deemed non-satisfactory if you fail to attend and/or submit more than a third of the required coursework for any module.**

Examinations

An overall pass mark of 40% is required to proceed to the Senior Sophister year. Students who successfully complete their JS year may opt to leave with a level-7 ordinary B.A. (B.A.(Ord.)). Full details of the Junior Sophister Science (TR071) examination regulations may be found in the Appendices. The same regulations apply to the School's direct-entry courses. Past examination papers are available from the Academic Registry's website (<https://www.tcd.ie/academicregistry/exams/past-papers/annual/>) and can be used to familiarize yourself with the structure of examination papers. The JS Chemistry mark contributes to **35%** of the final Moderatorship degree mark. Further information can be found in Appendix 1.

Feedback and Evaluation

The courses offered by the School benefit from student feedback. Rather than waiting until the end of a module to request online feedback, the School of Chemistry has instituted a Sophister Liaison Committee (SLC). Committee members comprise the DTLUG/Associate DTLUG, the School Convenor, JS and SS class reps, and Heads of Discipline or their representatives and the meetings are minuted. Class reps should collate feedback from their fellow students to bring to the meeting, which takes place at least once per semester. If you wish to provide feedback on a specific module, please complete the online form at

https://www.surveymonkey.com/r/module_feedback_2019-20

Academic Year Structure

[Academic Year Structure 2019/20](#)

Key Dates

| | |
|---------------------------------------|--|
| JS Safety Workshop | Thursday 5 September 2019 |
| Study/Review Weeks Semester 1: | Monday 21 October to Friday 25 October 2019 |
| Revision Week Semester 1: | Monday 2 December to Friday 6 December 2019 |
| Study/Review Week Semester 2: | Monday 2 March to Friday 6 March 2020 |
| Revision Week Semester 2: | Monday 13 April to Friday 17 April 2020 |
| Trinity week: | Monday 20 April to Friday 24 April 2020 |
| Formal Assessment weeks | |
| Semester 1 examinations | Saturday 7 December to Friday 13 December 2019 |
| Semester 2 examinations | Monday 27 April to Saturday 2 May 2020 (other contingency days may be added at a later date) |

Seminars and Special Lectures

During the year, lectures on various topics will be arranged by the School, the Werner Chemical Society, the Royal Society of Chemistry and/or the Institute of Chemistry of Ireland. You will find many of them interesting and valuable.

Senior Sophister Year

Semester 1 of the Senior Sophister year is spent working full-time on a research project in TCD, in industry or at a university abroad. The School encourages interested students to go abroad if they so wish. Those achieving a grade of II-1 or higher in their JS year will have automatic approval to go abroad but for those with lower grades, the request will be reviewed on a case-by-case basis. Arrangements for projects abroad are made in the JS year and will be coordinated by Prof. Peter Dunne (P.W.Dunne@tcd.ie; ext. 4449).

Modules to be taken in JS Year of Moderatorship in Chemistry (Chem)

This academic year will be based on the following 60 ECTS:

Core modules/Practical labs: 55 ECTS

Optional Module or Trinity Elective: 5 ECTS

Year Coordinator: Prof. Mike Southern (southerj@tcd.ie; 896 3411)

Core Modules:

| Semester 1 (11 weeks) | Semester 2 (11 weeks) |
|---|--|
| Inorganic Chemistry I CHU33103: Organometallics & Coordination Chemistry (10 ECTS) Organometallics (11L) Electronic spectroscopy (11L) Inorganic reaction mechanisms and homogenous catalysis (11L) Inorganic-chemistry lab marks (5 ECTS) from labs in weeks 11-14 and 22-23 will be included in the mark for this module | Inorganic Chemistry II CHU33104: Solid State Materials (5 ECTS) Inorganic polymers (11L) Structural inorganic chemistry (8L) Characterisation techniques of solid state materials (9L) Surface science (6L) |
| Organic Chemistry I CHU33203: Synthetic Organic Chemistry I (10 ECTS) Organometallic C-C couplings (9L) Pericyclic reactions, FMO theory & stereoelectronic effects (15L) Physical organic chemistry (9L) Organic-chemistry lab marks (5 ECTS) from labs in weeks 4-8 and week 10 will be included in the mark for this module | Organic Chemistry II CHU33204: Synthetic Organic Chemistry II (5 ECTS) Heterocyclic chemistry (9L) Organoheteroatom chemistry (15L) FGI and retrosynthesis (9L) |

| Semester 1 (11 weeks) | Semester 2 (11 weeks) |
|---|--|
| <p>Physical Chemistry I CHU33303: Quantum Mechanical Concepts in Physical Chemistry (5 ECTS) Quantum mechanics (15L) Spectroscopy (9L) Group theory (9L)</p> | <p>Physical Chemistry II CHU33304: Molecular Thermodynamics and Kinetics (10 ECTS) Molecular thermodynamics & statistical mechanics (15L) Electrochemistry (9L) Kinetics (9L) Physical-chemistry lab marks (5 ECTS) from labs in weeks 25-27 and 30-32 will be included in the mark for this module</p> |
| <p>Interdisciplinary Module I CHU33403: Analytical Methods (5 ECTS) Analytical chemistry (11L) Organic spectroscopy (11L) Structural methods in inorganic chemistry (11L)</p> | <p>Interdisciplinary Module II CHU33404: Biomaterials and Macromolecules (5 ECTS) Bioinorganic chemistry and natural products (11L) Bioinorganic chemistry (11L) Soft matter (11L)</p> |

Optional Modules:

CHU33441 – Introduction to Medicinal Chemistry (5 ECTS)

This module covers fundamental medicinal chemistry. It encompasses an introduction to medicinal chemistry, antiviral and anticancer chemistry, and the computational method QSAR.

OR

Trinity Elective (5 ECTS; <https://www.tcd.ie/trinity-electives/>). Applications for Trinity Electives were to be made to Academic Registry by 17 April 2019, with electives being allocated by the end of August 2019.

Note: The School reserves the right to amend the list of available modules and, in particular to withdraw and add modules.

Modules to be taken in JS Year of Moderatorship in Medicinal Chemistry (MedChem)

Course Director: Prof. Mathias Senge (sengem@tcd.ie; 896 8537)

| Semester 1 (11 weeks) | Semester 2 (11 weeks) |
|--|--|
| <p>Inorganic Chemistry I CHU33103: Organometallics & Coordination Chemistry (10 ECTS) Organometallics (11L) Electronic spectroscopy (11L) Inorganic reaction mechanisms and homogenous catalysis (11L) Inorganic-chemistry lab marks (5 ECTS) from labs in weeks 11-14 and 22-23 will be included in the mark for this module</p> | <p>Physical Chemistry II CHU33304: Molecular Thermodynamics and Kinetics (10 ECTS) Molecular thermodynamics & statistical mechanics (15L) Electrochemistry (9L) Kinetics (9L) Physical-chemistry lab marks (5 ECTS) from labs in weeks 25-27 and 30-32 will be included in the mark for this module</p> |
| <p>Organic Chemistry I CHU33203: Synthetic Organic Chemistry I (10 ECTS) Organometallic C-C couplings (9L) Pericyclic reactions, FMO theory & stereoelectronic effects (15L) Physical organic chemistry (9L) Organic-chemistry lab marks (5 ECTS) from labs in weeks 4-8 and week 10 will be included in the mark for this module</p> | <p>Organic Chemistry II CHU33204: Synthetic Organic Chemistry II (5 ECTS) Heterocyclic chemistry (9L) Organoheteroatom chemistry (15L) FGI and retrosynthesis (9L)</p> |
| <p>Interdisciplinary Module I CHU33403: Analytical Methods (5 ECTS) Analytical chemistry (11L) Organic spectroscopy (11L) Structural methods in inorganic chemistry (11L)</p> | <p>Interdisciplinary Module II CHU33404: Biomaterials and Macromolecules (5 ECTS) Bioinorganic chemistry and natural products (11L) Bioinorganic chemistry (11L) Soft matter (11L)</p> |

| Semester 1 (11 weeks) | Semester 2 (11 weeks) |
|---|--|
| <p>CHU33447: Biochemistry and Pharmaceutical Chemistry (5 ECTS) Protein structure, function, activity and regulation (15L) Receptors, drugs and the autonomic nervous system (5-7L) Anti-infective agents (11L)</p> | <p>CHU33441: Introduction to Medicinal Chemistry (5 ECTS) Introduction to medicinal chemistry (15L) QSAR and antiviral (9L + 5P) Anticancer (9L)</p> |
| | <p>Medicinal Chemistry – CHU33446: Microbiology and Pharmacology (5 ECTS) Antimicrobial agents (12L) Steroids (10L) Antimalarial chemistry (11L)</p> |

Note: The School reserves the right to amend the list of available modules and, in particular to withdraw and add modules

Modules to be taken in JS Year of Moderatorship in Chemistry with Molecular Modelling (CMM)

Course Director: Prof. Graeme Watson (watsong@tcd.ie; 896 1357)

| Semester 1 (11 weeks) | Semester 2 (11 weeks) |
|--|---|
| <p>Inorganic Chemistry I CHU33103: Organometallics & Coordination Chemistry (10 ECTS) Organometallics (11L) Electronic spectroscopy (11L) Inorganic reaction mechanisms and homogenous catalysis (11L)</p> <p>Inorganic-chemistry lab marks (5 ECTS) from labs in weeks 11-14 and 22-23 will be included in the mark for this module</p> | <p>Inorganic Chemistry II CHU33104: Solid State Materials (5 ECTS) Inorganic polymers (11L) Structural inorganic chemistry (8L) Characterisation techniques of solid state materials (9L) Surface science (6L)</p> |
| <p>Organic Chemistry I CHU33203: Synthetic Organic Chemistry I (10 ECTS) Organometallic C-C couplings (9L) Pericyclic reactions, FMO theory & stereoelectronic effects (15L) Physical organic chemistry (9L)</p> <p>Organic-chemistry lab marks (5 ECTS) from labs in weeks 4-8 and week 10 will be included in the mark for this module</p> | <p>Organic Chemistry II CHU33204: Synthetic Organic Chemistry II (5 ECTS) Heterocyclic chemistry (9L) Organoheteroatom chemistry (15L) FGI and retrosynthesis (9L)</p> |

| Semester 1 (11 weeks) | Semester 2 (11 weeks) |
|---|--|
| <p>Physical Chemistry I CHU33303: Quantum Mechanical Concepts in Physical Chemistry (5 ECTS) Quantum mechanics (15L) Spectroscopy (9L) Group theory (9L)</p> | <p>Physical Chemistry II CHU33304: Molecular Thermodynamics and Kinetics (10 ECTS) Molecular thermodynamics & statistical mechanics (15L) Electrochemistry (9L) Kinetics (9L) Physical-chemistry lab marks (5 ECTS) from labs in weeks 25-27 and 30-32 will be included in the mark for this module</p> |
| <p>Interdisciplinary Module I CHU33403: Analytical Methods (5 ECTS) Analytical chemistry (11L) Organic spectroscopy (11L) Structural methods in inorganic chemistry (11L)</p> | |
| <p><i>Over Both Semesters</i></p> <p>CHU33710: Computational Chemistry (10 ECTS) Unix/Linux (4L+8P) – examined by continuous assessment Fortran (16L+32P) – examined by continuous assessment Numerical methods (10L) Computational molecular quantum chemistry (12L) Simulation methods and molecular dynamics (10L)</p> | |

Note: The School reserves the right to amend the list of available modules and, in particular to withdraw and add modules

Components contributing to module marks

All exam papers will contain three questions, with each question having a minimum of 25% choice.

The contributions of components to overall module marks are as follows:

| Module Code | ECTS | Mark Component Number | Mark Component Description | Contribution to overall mark (%) |
|-------------|------|-----------------------|-------------------------------------|----------------------------------|
| CHU33103* | 10 | 1 | Exam component | 50 |
| | | 2 | Lab component Continuous Assessment | 50 |
| CHU33104* | 5 | 1 | Exam component | 100 |
| CHU33203 | 10 | 1 | Exam component | 50 |
| | | 2 | Lab component Continuous Assessment | 50 |
| CHU33204 | 5 | 1 | Exam component | 100 |
| CHU33303 | 5 | 1 | Exam component | 100 |
| CHU33304 | 10 | 1 | Exam component | 50 |
| | | 2 | Lab component Continuous Assessment | 50 |
| CHU33305 | 5 | 1 | Exam component | 100 |
| CHU33403 | 5 | 1 | Exam component | 100 |
| CHU33404 | 5 | 1 | Exam component | 100 |
| CHU33441 | 5 | 1 | Exam component | 100 |
| CHU33446 | 5 | 1 | Exam component | 100 |
| CHU33447 | 5 | 1 | Exam component | 100 |
| CHU33610 | 20 | 1 | Lab component Continuous Assessment | 100 |
| CHU33710 | 10 | 1 | Exam component | 50 |
| | | 2 | Lab component Continuous Assessment | 50 |

Visiting students

*5-ECTS lecture-only versions of CHU33103 and CHU33203, called CHU3103V and CHU3203V, respectively, are available for visiting students who do not wish to take or are unable to attend the associated labs. Visiting students will attend the same lectures as those taking CHU33103/CHU33203 and will sit the same Sem-1 exam, which will account for 100% of the module marks. Visiting students can also take the 5-ECTS module CHU33305, which corresponds to the lecture-only element of CHU33304.

Prizes

The Dr. George A. Loneragan prize (€381), is awarded annually to the student who gives the best performance in the Junior Sophister year, provided that sufficient merit is shown.

Careers

Since some students will be away from College during the first semester of the SS year, it is desirable that you establish contact with the Careers Office in the JS year. John Wynne (john.wynne@tcd.ie) is the Careers Advisor associated with the School and he will give an introductory talk in LTEE3 at 2pm on 22 January 2020. General career information can be found at <http://www.tcd.ie/Careers/students/> and an online service MyCareer is also available to provide advice and help you explore your future options (<https://mycareerconnect.tcd.ie/home.html>)

Career prospects in Chemistry are good, although you should realize that a primary degree may not be enough to gain immediate employment in research and development; an additional qualification, such as a postgraduate diploma or higher degree, could prove useful.

Library and Reference Databases

Much of your regular reading will depend on textbooks that are held in the Hamilton Library. In addition, many of the research journals and data collections are available online *via* the Library's website. An introduction to the library's services will be given by Greg Sheaf (on 12 September at 3pm in the Science Lecture Theatre). In addition, a one-hour introduction to two important research databases (SciFinder and Reaxys) will be given by senior application specialists from the companies producing the databases. You will be using these resources in your teaching labs and capstone project, so attendance is highly recommended. These are scheduled for 9am on Tuesday 10 September in the CHLLT (Reaxys) and 2pm on Thursday 12 September in the CHLLT (SciFinder). It might be beneficial to bring a laptop to these demonstration lectures.

Counselling

Representatives from Student Counselling (Trish Murphy) and S2S will also attend on 13 September to give you a brief introduction to the support services available.

Graduate Attributes

The Trinity Graduate Attributes represent the qualities, skills and behaviours that you will have the opportunity to develop as a Trinity student over your entire university experience, in other words, not only in the classroom, but also through engagement in co- and extra-curricular activities (such as summer work placements, internships, or volunteering).

The four Trinity Graduate Attributes are:

- To Think Independently
- To Act Responsibly
- To Develop Continuously
- To Communicate Effectively



Why are the Graduate Attributes important?

The Trinity Graduate Attributes will enhance your personal, professional and intellectual development. They will also help to prepare you for lifelong learning and for the challenges of living and working in an increasingly complex and changing world.

The Graduate Attributes will enhance your employability. Whilst your degree remains fundamental, also being able to demonstrate these Graduate Attributes will help you to differentiate yourself as they encapsulate the kinds of transversal skills and abilities, which employers are looking for.

How will I develop these Graduate Attributes?

Many of the Graduate Attributes are 'slow learned', in other words, you will develop them over the four or five years of your programme of study.

They are embedded in the curriculum and in assessments, for example, through undertaking independent research for your final year project, giving presentations and engaging in group work.

You will also develop them through the co-curricular and extra-curricular activities. If you help to run a club or society you will be improving your leadership skills, or if you play a sport you are building your communication and team-work skills.

Useful links to College services and support

- A full listing of support services can be found at <http://www.tcd.ie/students/supports-services/>
- The Senior Tutor's website is <https://www.tcd.ie/seniortutor/>
- The Students Union can be found at <https://www.tcdsu.org/>, with student representation structures detailed at <https://www.tcdsu.org/aboutus>
- A full listing of societies can be found at <http://trinitysocieties.ie/> and sports information is at http://www.tcd.ie/Sport/student-sport/ducac/?nodeId=94&title=Sports_Clubs
- The Academic Registry is at <https://www.tcd.ie/academicregistry/>
- Information and community for mature students can be accessed at <https://www.tcd.ie/maturestudents/>
- Details of how your data will be handled under GDPR (General Data Protection Rules) are available at https://www.tcd.ie/info_compliance/data-protection/student-data/

Relevant University Regulations

[Academic Policies](#)

[College Calendar](#)

[Dignity & Respect Policy](#)

[2010 Consolidated Statutes](#)

[Student Complaints Procedure](#)

[Student Partnership Policy](#)

Appendix 1: Examination Regulations

1. General College Regulations

General College regulations with regard to examinations shall apply to all examinations in Science as set out in the University Calendar.

2. Examination Regulations – Junior Sophister

- 2.1. Examination timetables will be published on the portal <https://my.tcd.ie> at least four weeks prior to examinations taking place.

The College reserves the right to alter the published time and date of an examination in exceptional circumstances. Students should ensure that they are available for examinations for the duration of the relevant examination session as stated in the Almanack.

- 2.2. Junior Sophister students must, in the first instance, sit the end-of-semester examinations and meet the requirements of the course.

- 2.3 The Junior Sophister examination has a two-fold purpose. It is (a) the final examination for the Ordinary B.A. degree and (b) a qualifying examination to proceed to the Senior Sophister year as a Moderatorship candidate. A student who rises to, and completes, the Senior Sophister year, but fails the Moderatorship examination, is still qualified for the award of an Ordinary B.A. degree based on their successful performance in the Junior Sophister examination.

Students who pass the Junior Sophister examination can have the Ordinary B.A. degree conferred if they do not choose, or are not qualified, to proceed to Moderatorship. Except by special permission of the University Council, on the recommendation of the Course Director, the ordinary degree of B.A. may be conferred only on candidates who have spent at least three years in the course.

General assessment and progression regulations and information

In order to rise with their class, students must obtain credit for the academic year by satisfactory attendance at lectures and tutorials and by carrying out, submitting and sitting the required assessment components. In addition, students must pass the year by achieving, at a minimum, an overall credit-weighted average pass mark for the year (40% or 50%, as per programme regulations) and either:

(a) accumulate 60 credits by achieving at least the pass mark in all modules

or

(b) **Pass by Compensation.** All modules and components within modules are compensatable (except in particular professional programmes where compensation does not apply). To pass a year by compensation, in programmes that locate the pass mark at 40%, a student must achieve the pass mark in modules carrying a minimum of 50 credits and obtain a module mark of at least 35% in any remaining module(s). A student may accumulate a maximum of 10 credits at qualified pass where the mark lies between 35 and 39%.

The end of year or degree result moderated by the court of examiners must be returned and recorded on the student record.

Progression is on an annual basis. Within a year students may carry failed modules from one semester to the next but not from one academic year to another; that is, they will not be able to rise to the next year of their programme until they have successfully completed the preceding year(s). Students who have not passed their year are required to present for reassessment when:

(a) they obtain in excess of 10 credits at qualified pass (i.e. marks between 35 and 39% where the pass mark is 40%;

(b) they fail any module (i.e. achieving marks below 35% where the pass mark is 40%; or below 45% where the pass mark is 50%);

(c) they do not obtain an overall pass mark for the year;

(d) any combination of (a) – (c) occurs.

If a student has achieved both fail and qualified pass grades at the first sitting or has exceeded the 10 credit limit allowed for compensation and is not permitted to rise with their year, they must present for reassessment in all failed components of all modules for which they obtained a fail and/or a qualified pass.

Different modalities of assessment to the first sitting are permitted in the reassessment session as determined by the programme.

The same compensation regulations as outlined above apply at the reassessment session.

Students who fail to satisfy the requirements of their year at the reassessment session are required to repeat the year in full (i.e. all modules and all assessment components).

Students are permitted to repeat any year of an undergraduate programme subject to not repeating the same year more than once and not repeating more than two academic years within a degree course, except by special permission of the University Council.

The maximum number of years to complete an undergraduate degree is six years for a standard four-year programme and seven years for a five-year programme.

Under certain conditions approved by the University Council, on the recommendation of the Senior Lecturer in consultation with the appropriate head(s) of school(s), director(s) of undergraduate teaching and learning, head(s) of department(s), Associate Dean for Undergraduate Science Education or course director, the University regards attendance at courses and the passing of approved examinations in other colleges as fulfilling or partially fulfilling the exercises required for certain degrees of the University. Where places are available students may be permitted advanced entry to their course, if they are deemed qualified by their knowledge and attainment to do so, or by passing specified examinations. Applicants must pay a fee before presenting themselves for examination. Applications for advanced entry to any course should be made through the [Academic Registry](#) in the first instance.

Students must pursue their undergraduate course continuously unless they are permitted by the Senior Lecturer to interrupt it, normally for a period of one year, either by going 'off-books' or by intermitting their studies for extra-curricular reasons.

Absence from Examinations

Students who may be prevented from sitting an examination or examinations (or any part thereof) due to illness should seek, through their tutor, permission from the Senior Lecturer in advance of the examination session to defer the examination/s to the reassessment session.

Students who have commenced the examination session, and are prevented from completing the session due to illness should seek, through their tutor, permission from the Senior Lecturer to defer the outstanding examination/s to the reassessment session.

Where such permission is sought, it must be appropriately evidenced:

(a) For illness: medical certificates must state that the student is unfit to sit examinations/complete assessment and specify the date(s) of the illness and the dates on which the student is not fit to sit examinations/complete assessment. Medical certificates must be submitted to the student's tutor within three days of the beginning of the period of absence from the assessment/examination.

(b) For other grave cause: appropriate evidence must be submitted to the student's tutor within three days of the beginning of the period of absence from the assessment/examination.

Where illness occurs during the writing of an examination paper, it should be reported immediately to the chief invigilator. The student will then be escorted to the College Health Centre. Every effort will be made to assist the student to complete the writing of the examination paper.

Where an examination/assessment has been completed, retrospective withdrawal will not be granted by the Senior Lecturer nor will medical certificates be accepted in explanation for poor performance.

Appendix 2: Description of the European Credit Transfer System (ECTS)

The European Credit Transfer and Accumulation System (ECTS) is an academic credit system based on the estimated student workload required to achieve the objectives of a module or programme of study. It is designed to enable academic recognition for periods of study, to facilitate student mobility and credit accumulation and transfer. The ECTS is the recommended credit system for higher education in Ireland and across the European Higher Education Area.

The ECTS weighting for a module is a **measure of the student input or workload** required for that module, based on factors such as the number of contact hours, the number and length of written or verbally presented assessment exercises, class preparation and private study time, laboratory classes, examinations, clinical attendance, professional training placements, and so on as appropriate. There is no intrinsic relationship between the credit volume of a module and its level of difficulty.

The European **norm for full-time study over one academic year is 60 credits**. The Trinity academic year is 40 weeks from the start of Michaelmas Term to the end of the annual examination period 1 ECTS credit represents 20-25 hours estimated student input, so a 10-credit module will be designed to require 200-250 hours of student input including class contact time and assessments.

ECTS credits are awarded to a student only upon successful completion of the course year. Progression from one year to the next is determined by the course regulations. Students who fail a year of their course will not obtain credit for that year even if they have passed certain component courses. Exceptions to this rule are one-year and part-year visiting students, who are awarded credit for individual modules successfully completed.

Appendix 3: College regulation regarding plagiarism

Simply put, plagiarism is the presentation of the work of someone else as your own - the university takes plagiarism offences extremely seriously. Information on what constitutes plagiarism and how the university deals with it can be found in the central repository on plagiarism (<http://tcd-ie.libguides.com/plagiarism>) and in the College Calendar (<https://www.tcd.ie/calendar/>).

All students must complete our [Ready Steady Write plagiarism tutorial](#) and sign a declaration when submitting course work, whether in hard or soft copy or via Blackboard, confirming that you understand what plagiarism is and have completed the tutorial.

Appendix 4: Mark scheme and schedule of grades in Sophister years

| Mark Range | Criteria |
|------------|--|
| 90-100 | IDEAL ANSWER; showing insight and originality and wide knowledge. Logical, accurate and concise presentation. Evidence of reading and thought beyond course content. Contains particularly apt examples. Links materials from lectures, practicals and seminars where appropriate. |
| 80-89 | OUTSTANDING ANSWER; falls short of the 'ideal' answer either on aspects of presentation or on evidence of reading and thought beyond the course. Examples, layout and details are all sound. |
| 70-79 | MAINLY OUTSTANDING ANSWER; falls short on presentation and reading or thought beyond the course, but retains insight and originality typical of first class work. |
| 65-69 | VERY COMPREHENSIVE ANSWER; good understanding of concepts supported by broad knowledge of subject. Notable for synthesis of information rather than originality. Sometimes with evidence of outside reading. Mostly accurate and logical with appropriate examples. Occasionally a lapse in detail. |
| 60-64 | LESS COMPREHENSIVE ANSWER; mostly confined to good recall of coursework. Some synthesis of information or ideas. Accurate and logical within a limited scope. Some lapses in detail tolerated. |
| 55-59 | SOUND BUT INCOMPLETE ANSWER; based on coursework alone but suffers from a significant omission, error or misunderstanding. Usually lacks synthesis of information or ideas. Mainly logical and accurate within its limited scope and with lapses in detail. |
| 50-54 | INCOMPLETE ANSWER; suffers from significant omissions, errors and misunderstandings, but still with understanding of main concepts and showing sound knowledge. Several lapses in detail. |
| 45-49 | WEAK ANSWER; limited understanding and knowledge of subject. Serious omissions, errors and misunderstandings, so that answer is no more than adequate. |
| 40-44 | VERY WEAK ANSWER; a poor answer, lacking substance but giving some relevant information. Information given may not be in context or well explained, but will contain passages and words, which indicate a marginally adequate understanding. |
| 35-39 | MARGINAL FAIL; inadequate answer, with no substance or understanding, but with a vague knowledge relevant to the question. |
| 30-34 | CLEAR FAIL; some attempt made to write something relevant to the question. Errors serious but not absurd. Could also be a sound answer to the misinterpretation of a question. |
| 0-29 | UTTER FAIL; with little hint of knowledge. Errors serious and absurd. Could also be a trivial response to the misinterpretation of a question. |

Schedule of Grades

| | |
|------|------------|
| I | =70%+ |
| II-1 | = 60-69% |
| II-2 | = 50-59% |
| III | = 40-49% |
| F-1 | = 30-39% |
| F-2 | = 0-29% |
| U.G. | = Ungraded |

Appendix 5: Medical and Self-Certification

During the Fresher years (Years 1 and 2) the Science Course Office coordinates the submission of medical certificates and self-certification. In the Sophister years certification is dealt with by the School Office in the Chemistry Building.

Medical Certificates:

A Medical Certificate from a GP is required for absences of more than 3 days. You should submit your med cert directly to the School of Chemistry office and complete a medical certificate form (available from the School Office or online at <https://chemistry.tcd.ie/assets/pdf/js/Absence%20Form%20-%20Med%20Cert%20Template.pdf>, stating the dates of your absence and the labs that you missed. **This must be done on the day of your return to College.**

Self-Certification:

For periods of up to one day (but no more than 3 days in any academic year), you may 'self-certify' an absence using the appropriate form (available from the School Office or online at [https://chemistry.tcd.ie/assets/pdf/js/Absence%20Form%20-%20Self%20Cert%20\(Illness,%20Sport,%20Other\)%20Template.pdf](https://chemistry.tcd.ie/assets/pdf/js/Absence%20Form%20-%20Self%20Cert%20(Illness,%20Sport,%20Other)%20Template.pdf)). **The School Office must be provided with the completed self-certification form, containing details of missed lab/lectures and reasons for the absence on the day of your return to College. Late submissions of 'self-certs' cannot be used to mitigate against incomplete lab reports.**

If you miss an assigned laboratory practical class (either with a med cert or a self-certified absence), you should inform the supervisor of the laboratory practical of your absence at the next session and confirm that you have submitted the relevant certificate to the School Office. Adjustment of your mark and/or coursework resulting from absences will be treated on a case-by-case basis.

In the event of any conflict or inconsistency between the General Regulations published in the University Calendar and information contained in this handbook, the provisions of the General Regulations in the Calendar will prevail.

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