



Trinity College Dublin

Coláiste na Tríonóide, Baile Átha Cliath

The University of Dublin

Junior Sophister (3rd Year) & Senior Sophister (4th Year) Moderatorships

In the Junior and Senior Freshman years TR061 students complete a course of study which will qualify them to compete for a place in one of the following Moderatorships at the end Senior Freshman year:

- Chemistry
- Chemistry with Biosciences
- Chemistry with Molecular Modelling
- Medicinal Chemistry
- Nanoscience – Chemistry

Junior Sophister

Students in Junior Sophister year take 40 credits of core modules and 20 credits of Open Modules and Trinity Electives. Approved Modules are modules that are aligned to the students' core discipline. Trinity Electives are 5 ECTS modules that cover a wide range of languages and cultures, Trinity's research themes or grand societal challenges and are provided by schools from across the College - see here for the list of 43 available electives <https://www.tcd.ie/trinity-electives/electives/> Science students can take either one or two Trinity Electives – with a maximum of one per semester.

Junior Sophister TR061 – Chemistry, Chemistry with Biosciences, Chemistry with Molecular Modelling, Medicinal Chemistry

In JS (3rd year) students take 20 credits of core chemistry modules, 20 credits of laboratory modules, 5 or 10 credits of Trinity Electives and 10 or 15 credits of specialist Open modules.

The Junior Sophister course structure is diagrammatically illustrated below:

Semester 1 - Michaelmas Term (MT)	Semester 2 - Hilary Term (HT)
CORE MODULES	
CHU33207 Synthetic Organic Chemistry 1 5 ECTS	CHU33107 Organometallics and Coordination Chemistry 5 ECTS
CHU33209 Advanced Organic Chemistry Laboratory 5 ECTS	CHU33109 Advanced Inorganic Chemistry Laboratory 5 ECTS
CHU33303 Quantum Mechanical Concepts in Physical Chemistry 5 ECTS	CHU33309 Advanced Physical Chemistry Laboratory 5 ECTS
CHU33405 Analytical and Computational Methods 5 ECTS	
CHU33409 Analytical and Computational Methods Workshops 5 ECTS	
OPEN MODULES	
	Specialist Approved Modules 10 – 15 ECTS
TRINITY ELECTIVES	
Trinity Elective 1 5 ECTS (Mandatory)	Trinity Elective 2 5 ECTS (Optional)

Note – Specialist approved modules: Specialist modules in JS/SS are specific to degree programmes

Junior Sophister TR061 – NANOSCIENCE

40 ECTS core + 20 ECTS Open modules or Trinity Elective modules

Core Modules (40 ECTS)	Semester 1: Core	Semester 2: Core
	PYU33P01: <u>Quantum Mechanics I</u> (5 ECTS)	PYU33P03: <u>Condensed Matter I</u> (5 ECTS)
	CHU33405 : Analytical and Computational Methods / Interdisciplinary Chemistry (5 ECTS)	CHU33307 : Solid State Materials and Modelling (5 ECTS)
	PYU33NP3: Nanoscience Physics Laboratory (10 ECTS)	
	CHU33609 : Interdisciplinary Chemistry Lab for Nanoscience (5 ECTS)	CHU33603 : Physical & Inorganic Chemistry Lab for Nanoscience (5 ECTS)
Open or Trinity Elective Modules (20 ECTS)	Semester 1: Open modules both mandatory	Semester 2: Open – first is mandatory then choose 1 of 3
	* Trinity Elective 1 (Mandatory) (Nanoscience students obliged to take a TE in S1)	* CHU33107 : Organometallic and Coordination Chemistry (Mandatory)
	* PYU33P02: <u>Electromagnetic Interactions I</u> (5 ECTS)	PYU33P04 : <u>Semiconductor Physics</u> (5 ECTS)
		CHU33105: Chemistry of Polymers and Macromolecules (5 ECTS)
		Trinity Elective 2 (5 ECTS)

Trinity Electives by Semester 2020/21

Semester 1

TEU00381	Ancient Culture Lab: Homer's Experience and the Greek Language
TEU00371	Becoming Human: The Science of Us
TEU00121	Cancer: The Patient Journey
TEU00351	The Chemistry of Periodic Elements
TEU00131	Chinese Language and Culture (Beginners)
TEU00141	Cultures and Societies of the Middle East and North Africa
TEU00031	Design Thinking
TEU00151	Displacement: exploring the human experience of forced migration
TEU00041	Emergence of Technologies
TEU00171 & TEU00161	French Language and Culture (Beginners and Advanced)
TEU00191/ TEU00181	German Language and Culture (Beginners and Advanced)
TEU00081	Idea Translation Lab
TEU00101	Irish Landscapes: Interdisciplinary Perspectives
TEU00211 & TEU00201	Irish Language and Culture (Beginners and Advanced)
TEU00341	Irish Sign Language
TEU00321 & TEU00331	Italian Language and Culture (Beginners and Advanced)
TEU00221	Japanese Language and Culture (Beginners)
TEU00231	Korean Language and Culture (Beginners)
TEU00251 & TEU00241	Spanish Language and Culture (Beginners and Advanced)
TEU00291	Travel and English Literature
TEU00301	Vaccines – Friend or Foe
TEU00311	What is the Internet doing to me? (Security and Privacy for people in a connected world)
TEU00011	A World to Discover: Travel Memoirs and Memorabilia at Trinity

Semester 2

TEU00262	The Art of the Megacity
TEU00122	Cancer: The Patient Journey
TEU00132	Chinese Language and Culture (Beginners)
TEU00452	Contemporary Art Angles
TEU00142	Cultures and Societies of the Middle East and North Africa
TEU00422	Decoding Genetics: The building blocks of life
TEU00152	Displacement: exploring the human experience of forced migration
TEU00052	Energy in the 21 st Century
TEU00062	Engaging in the Digital World: Today and Tomorrow
TEU00272	The Ethics Lab: Responsible Action in the Real World
TEU00172 & TEU00162	French Language and Culture (Beginners and Advanced)
TEU00072	From Planets to the Cosmos
TEU00192 & TEU00182	German Language and Culture (Beginners and Advanced)
TEU00362	Hacking your health: the science of exercise and fitness
TEU00402	How to live long and prosper – A lifespan approach
TEU00082	Idea Translation Lab
TEU00212 & TEU00202	Irish language and Culture (Beginners and Advanced)
TEU00342	Irish Sign Language
TEU00322 & TEU00332	Italian Language and Culture (Beginners and Advanced)
TEU00222	Japanese Language and Culture (Beginners)
TEU00232	Korean Language and Culture (Beginners)
TEU00422	Language and Communication in the Digital Age
TEU00392	Latin: One Language, Many Cultures
TEU00412	The Politics of Peace and Conflict in a Globalised World
TEU00112	Social Innovation – Tools for Social Change
TEU00252 & TEU00242	Spanish Language and Culture (Beginners and Advanced)
TEU00462	Sustainable Development Goals and Policy Evaluation: Global Development One Target at a Time
TEU00432	Thinking Digitally and Culturally
TEU00282	Toolkit for a Smart & Sustainable World
TEU00292	Travel and English Literature

Senior Sophister

In the Senior Sophister year modules cover advanced topics in each of the Moderatorships. In addition, students are required to attend research seminars and undertake a Capstone project in a research lab in the School of Chemistry or in research lab abroad as part of Erasmus [link](#)

Senior Sophister TR061 – Chemistry, Chemistry with Molecular Modelling, Medicinal Chemistry

Semester 1 - Michaelmas Term (MT)	Semester 2 - Hilary Term (HT)
CORE MODULES	
Capstone Project 20 ECTS	CHU44004 Inorganic Chemistry 5 ECTS
CHU44123 Synoptic Problem Solving in Chemistry 5 ECTS	CHU44204 Organic Chemistry 5 ECTS
	CHU44304 Physical Chemistry 5 ECTS
Open Modules	
	Specialist Approved Modules 20 ECTS

Note – Specialist approved modules: Specialist modules in JS/SS are specific to degree programmes

Chemistry with Biosciences

Semester 1 - Michaelmas Term (MT)	Semester 2 - Hilary Term (HT)
CORE MODULES	
Capstone Project 20 ECTS	CHU44004 Inorganic Chemistry 5 ECTS
CHU44123 Synoptic Problem Solving in Chemistry 5 ECTS	CHU44204 Organic Chemistry 5 ECTS
	CHU44304 Physical Chemistry 5 ECTS
Open Modules	
Specialist Approved Biology Module 5 ECTS	Specialist Approved Biology Modules 15 ECTS

Senior Sophister TR063 – nanoscience				
45 Credits Core modules + 15 Credits Open modules (AY 21/22)				
Core Modules (50 credits)	Semester 1: Core		Semester 2 Core	
	PYU44NP2: Project (20 credits) – Assessment in Semester 2			
	Project in first 9 - 12 weeks of semester 1	PYU44NP5: Problem solving (5 credits)	CHU44304: Physical Chemistry (5 credits)	
		PYU44N02: Nanoscience, complex fluids and polymers (10 credits)		
			CHU44004: Inorganic chemistry (5 credits)	
Open Modules (10 credits)	Semester 1: Open modules		Semester 2: Open modules	
	Take 2 or 3 Open modules which total 15 credits (Note not all module codes are defined for AY 21/22 and this structure is still provisional)		PYU44P13: Magnetism & Superconductivity (5 credits)	
			PYU44P06: Modern Optics (5 credits)	
			PYU44P05: Electromagnetic Interactions II (5 credits)	
			PYU44P17: Energy Science (5 credits)	
			CHU44167: Advanced Physical Chemistry (10 credits)	
			CHU44005: Advanced Inorganic Chemistry (10 credits)	
			CHU44705: Advanced Computational Chemistry (10 credits)	