

Addendum to the Programme Specification

Master of Chemistry

8612 MChem Chemistry

8613 MChem Chemistry (Digital Methods and Computational modelling)

8614 MChem Chemistry with External Placement

8615 MChem Chemistry with Mathematics

8616 MChem Chemistry with Medicinal Sciences

8617 MChem Chemistry with Year Long Industry Experience

This Addendum has been produced to highlight the key changes made to the existing Programme Specification as a result of the University's response to the Covid-19 Pandemic. You should read it in conjunction with the relevant Programme Specification from the year you started your programme.

Programme Specification for entry in 2020-21

University level information

In view of COVID-19, the University has had to make changes to some elements of programme delivery for 2020-21. These changes have included the method of delivery, such as face-to-face and online, and the number of modules available.

The University aims to provide as much of a face-to-face component to your education as prevailing conditions at the time allow, combined with its new blended approach that will develop active independent and group online learning.

As the COVID-19 pandemic develops, the University's response to this and other issues may likewise need to evolve. The University will consult with student representatives as necessary and appropriate and will communicate changes to you as soon as practicable so that you have the information you need to understand how a change may impact you and what steps you need to take next. The University remains committed to supporting you as you learn.

Programme Information

Lab work remains a compulsory part of the programme but will be offered in line with current social distancing and local and international guidelines. That will result in some changes in the way in which these activities are scheduled, with knock-on effects on scheduling of other activities.

Programme Structure

Where optional modules have been specified, the following is an indicative list of available optional modules, which are subject to change each academic year. Please note that, in some instances, modules have limited spaces available.

8612 MChem Chemistry

Programme:	Master of Chemistry
Term:	2020-2021 Academic Session (202021)
Area title:	Master of Chemistry Yr 1

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
CHEM 1048	Structure and Bonding	15	Yes	Semester 1
CHEM 1049	Fundamentals of Organic Chem	15	Yes	Semester 1
CHEM 1050	Thermodynamics and Equilibrium	15	Yes	Semester 1
CHEM 1051	Intro to Practical Chem I	0	Yes	Semester 1
CHEM 1053	Main Group & Trans Metal Chem	15	Yes	Semester 2
CHEM 1054	Reactions in Organic Chemistry	15	Yes	Semester 2
CHEM 1055	Kinetics and Quantum Mechanics	15	Yes	Semester 2
CHEM 1056	Intro to Practical Chem II	0	Yes	Semester 2
CHEM 1057	Analytical Chemistry	15	No	Semester 2

Optional Modules

You must choose from the following modules:

Module		Credit	Semester/Term
Rule 1	<p>Select 1 maths module</p> <p>Select CHEM1047 if you have an A-level (or equivalent) in mathematics</p> <p>Select CHEM1052 if you do not have an A-level (or equivalent) in mathematics</p>		
CHEM 1047	Mathematical Methods in Chemistry I	15	Semester 1
CHEM 1052	Mathematical Skills for Chemists	15	Semester 1

Programme:	Master of Chemistry
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Term: 2020-2021 Academic Session (202021)

Area title: Master of Chemistry Yr 2

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
CHEM 2001	Organic Reaction Mechanisms	15	Yes	Semester 1
CHEM 2005	Aspects of Organic Synthesis	15	Yes	Semester 2
CHEM 2012	Change and Equilibrium	15	Yes	Semester 2
CHEM 2013	Atomic & Molecular Interaction	15	Yes	Semester 1
CHEM 2026	Coordination Chemistry	15	Yes	Semester 1
CHEM 2032	Solid State & Organometal Chem	15	Yes	Semester 2

Optional Modules

You must choose from the following modules:

Module		Credit	Semester/Term
Rule 1	Select 30 credits		
Rule FULL YEAR	Select 0 to 30 credits		
BIOL 1024	Fundamentals of Biochemistry	30	Full Academic Year
BIOL 1025	Fundamentals of Cell Biology and Physiology	30	Full Academic Year
BIOL 2049	Pharmacology	30	Full Academic Year
Rule SEMESTER 1	Select 0 to 15 credits		
CHEM 1047	Mathematical Methods in Chemistry I	15	Semester 1
CHEM 2025	Introduction to Programming	15	Semester 1

NATS 2002	Editing life: genetic engineering and synthetic biology	15	Semester 1
SOES 1005	Introduction to Ocean Biogeochemistry	15	Semester 1
SOES 2003	Geohazards and Earth Resources	15	Semester 1
Rule SEMESTER 2	Select 0 to 15 credits		
CHEM 1057	Analytical Chemistry	15	Semester 2
CHEM 2010	Organic Chemistry in the Environment	15	Semester 2
CHEM 2024	Mathematical Methods in Chemistry II	15	Semester 2
LANG XX15	Language Module	15	Show Electives
NATS 2001	Creating an atmosphere: from pea-soupers to climate change	15	Semester 2
PHYS 2015	Introduction to Energy in The Environment	15	Semester 2
SOES 1009	The Living Earth	15	Semester 2

Programme:	Master of Chemistry
Term:	2020-2021 Academic Session (202021)
Area title:	Master of Chemistry Yr 3

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
CHEM 3037	Advanced Inorganic Chemistry	15	Yes	Semester 1
CHEM 3038	Advanced Organic Chemistry	15	Yes	Semester 1
CHEM 3039	Advanced Physical Chemistry	15	Yes	Semester 1
CHEM 3048	Advanced Practical Chemistry	15	Yes	Semester 1
CHEM 3049	Advanced Practicl Chemistry II	15	Yes	Semester 2

Optional Modules

You must choose from the following modules:

Module		Credit	Semester/Term
Rule 1	Select 45 credits		
Rule 1.1	Select 15 to 45 credits CHEM3041 is a prerequisite to organic chemistry modules in the final year		
CHEM 3002	Medicinal Chemistry	15	Semester 2
CHEM 3040	Macrocyclic and Bio-inorganic Chemistry	15	Semester 2
CHEM 3041	Synthetic Methods in Organic Chemistry	15	Semester 2
CHEM 3044	Sustainable Chemistry	15	Semester 2
CHEM 3045	Atoms, Molecules and Spins: Quantum Mechanics in Chemistry	15	Semester 2
Rule 1.2	Select 0 to 15 credits CHEM6144 will become a Level 6 module (CHEM3051) in 2021/22. If you wish to take this module at Level 7, you should do so this year.		
CHEM 6144	Chemistry through the Computational Microscope	15	Semester 2

Programme:	Master of Chemistry
Term:	2020-2021 Academic Session (2020/21)
Area title:	Master of Chemistry Yr 4

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
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[CHEM 6090](#) Res Project and Dissertation 60 Yes Full Academic Year

Optional Modules

You must choose from the following modules:

Module		Credit	Semester/Term
Rule 1	Select 60 credits		
Rule SEMESTER 1	Select 30 Semester 1 credits		
CHEM 6146	X-Ray Crystallographic Techniques, Advanced Main Group	15	Semester 1
CHEM 6147	Advanced Spectroscopy and Applications	15	Semester 1
CHEM 6154	Nuclear Magnetic Resonance Spectroscopy	15	Semester 1
CHEM 6161	Stereoselective Reactions	15	Semester 1
Rule SEMESTER 2	Select 30 Semester 2 credits		
CHEM 6092	Medicinal Chemistry	15	Semester 2
CHEM 6103	Sustainable Chemistry	15	Semester 2
CHEM 6137	Atoms, Molecules and Spins: Quantum Mechanics in Chemistry	15	Semester 2
CHEM 6144	Chemistry through the Computational Microscope	15	Semester 2
CHEM 6145	Supramolecular Chemistry of Functional Molecules and	15	Semester 2
CHEM 6149	Principles, Techniques and Energy Applications of	15	Semester 2
CHEM 6162	Advanced Chemical Biology	15	Semester 2

8613 MChem Chemistry (Digital Methods and Computational modelling)

Programme:	Master of Chemistry
Term:	2020-2021 Academic Session (202021)
Area title:	MChem Digital Methods Yr 1

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
CHEM 1048	Structure and Bonding	15	Yes	Semester 1
CHEM 1049	Fundamentals of Organic Chem	15	Yes	Semester 1
CHEM 1050	Thermodynamics and Equilibrium	15	Yes	Semester 1
CHEM 1051	Intro to Practical Chem I	0	Yes	Semester 1
CHEM 1053	Main Group & Trans Metal Chem	15	Yes	Semester 2
CHEM 1054	Reactions in Organic Chemistry	15	Yes	Semester 2
CHEM 1055	Kinetics and Quantum Mechanics	15	Yes	Semester 2
CHEM 1056	Intro to Practical Chem II	0	Yes	Semester 2
CHEM 1057	Analytical Chemistry	15	No	Semester 2

Optional Modules

You must choose from the following modules:

Module		Credit	Semester/Term
Rule 1	<p>Select 1 maths module</p> <p>Select CHEM1047 if you have an A-level (or equivalent) in mathematics</p> <p>Select CHEM1052 if you do not have an A-level (or equivalent) in mathematics</p>		
CHEM 1047	Mathematical Methods in Chemistry I	15	Semester 1
CHEM 1052	Mathematical Skills for Chemists	15	Semester 1

8614 MChem Chemistry with External Placement

Programme:	Master of Chemistry
Term:	2020-2021 Academic Session (202021)
Area title:	MChem with ExtI Placement Yr 1

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
CHEM 1048	Structure and Bonding	15	Yes	Semester 1
CHEM 1049	Fundamentals of Organic Chem	15	Yes	Semester 1
CHEM 1050	Thermodynamics and Equilibrium	15	Yes	Semester 1
CHEM 1051	Intro to Practical Chem I	0	Yes	Semester 1
CHEM 1053	Main Group & Trans Metal Chem	15	Yes	Semester 2
CHEM 1054	Reactions in Organic Chemistry	15	Yes	Semester 2
CHEM 1055	Kinetics and Quantum Mechanics	15	Yes	Semester 2
CHEM 1056	Intro to Practical Chem II	0	Yes	Semester 2
CHEM 1057	Analytical Chemistry	15	No	Semester 2

Optional Modules

You must choose from the following modules:

Module		Credit	Semester/Term
Rule 1	<p>Select 1 maths module</p> <p>Select CHEM1047 if you have an A-level (or equivalent) in mathematics</p> <p>Select CHEM1052 if you do not have an A-level (or equivalent) in mathematics</p>		
CHEM 1047	Mathematical Methods in Chemistry I	15	Semester 1
CHEM 1052	Mathematical Skills for Chemists	15	Semester 1

8615 MChem Chemistry with Mathematics

Programme:	Master of Chemistry
Term:	2020-2021 Academic Session (202021)
Area title:	MChem with Mathematics Yr 1

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
CHEM 1048	Structure and Bonding	15	Yes	Semester 1
CHEM 1049	Fundamentals of Organic Chem	15	Yes	Semester 1
CHEM 1050	Thermodynamics and Equilibrium	15	Yes	Semester 1
CHEM 1051	Intro to Practical Chem I	0	Yes	Semester 1
CHEM 1053	Main Group & Trans Metal Chem	15	Yes	Semester 2
CHEM 1054	Reactions in Organic Chemistry	15	Yes	Semester 2
CHEM 1055	Kinetics and Quantum Mechanics	15	Yes	Semester 2
CHEM 1056	Intro to Practical Chem II	0	Yes	Semester 2
CHEM 1057	Analytical Chemistry	15	No	Semester 2
MATH 1059	Calculus	15	No	Semester 1

Optional Modules

You must choose from the following modules:

Module	Credit	Semester/Term
No optional modules in this Part		

8616 MChem Chemistry with Medicinal Sciences

Programme:	Master of Chemistry
Term:	2020-2021 Academic Session (202021)
Area title:	MChem with Medicinal Sci Yr 1

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
CHEM 1048	Structure and Bonding	15	Yes	Semester 1
CHEM 1049	Fundamentals of Organic Chem	15	Yes	Semester 1
CHEM 1050	Thermodynamics and Equilibrium	15	Yes	Semester 1
CHEM 1051	Intro to Practical Chem I	0	Yes	Semester 1
CHEM 1053	Main Group & Trans Metal Chem	15	Yes	Semester 2
CHEM 1054	Reactions in Organic Chemistry	15	Yes	Semester 2
CHEM 1055	Kinetics and Quantum Mechanics	15	Yes	Semester 2
CHEM 1056	Intro to Practical Chem II	0	Yes	Semester 2
CHEM 1057	Analytical Chemistry	15	No	Semester 2

Optional Modules

You must choose from the following modules:

Module		Credit	Semester/Term
Rule 1	<p>Select 1 maths module</p> <p>Select CHEM1047 if you have an A-level (or equivalent) in mathematics</p> <p>Select CHEM1052 if you do not have an A-level (or equivalent) in mathematics</p>		
CHEM 1047	Mathematical Methods in Chemistry I	15	Semester 1
CHEM 1052	Mathematical Skills for Chemists	15	Semester 1

8617 MChem Chemistry with Year Long Industry Experience

Programme:	Master of Chemistry
Term:	2020-2021 Academic Session (202021)
Area title:	MChem with Year Ind Exp Yr 1

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
CHEM 1048	Structure and Bonding	15	Yes	Semester 1
CHEM 1049	Fundamentals of Organic Chem	15	Yes	Semester 1
CHEM 1050	Thermodynamics and Equilibrium	15	Yes	Semester 1
CHEM 1051	Intro to Practical Chem I	0	Yes	Semester 1
CHEM 1053	Main Group & Trans Metal Chem	15	Yes	Semester 2
CHEM 1054	Reactions in Organic Chemistry	15	Yes	Semester 2
CHEM 1055	Kinetics and Quantum Mechanics	15	Yes	Semester 2
CHEM 1056	Intro to Practical Chem II	0	Yes	Semester 2
CHEM 1057	Analytical Chemistry	15	No	Semester 2

Optional Modules

You must choose from the following modules:

Module		Credit	Semester/Term
Rule 1	<p>Select 1 maths module</p> <p>Select CHEM1047 if you have an A-level (or equivalent) in mathematics</p> <p>Select CHEM1052 if you do not have an A-level (or equivalent) in mathematics</p>		
CHEM 1047	Mathematical Methods in Chemistry I	15	Semester 1
CHEM 1052	Mathematical Skills for Chemists	15	Semester 1