

The University of Liverpool: F102 Chemistry (MChem)

Year 1

Semester 1	Semester 2
Introductory Organic Chemistry (30 credits)	
Introductory Inorganic Chemistry (15 credits)	Introductory Physical Chemistry (15 credits)
Introductory Spectroscopy (15 credits)	
Key Skills for Chemists (15 credits)	
Foundations of Medicinal Chemistry (15 credits)	Innovative Chemistry for Energy and Materials (15 credits)
Or 15 credits of subsidiary modules from outside the Department	Or 15 credits of subsidiary modules from outside the Department

Subsidiary modules available from:

Archaeology, Life Sciences, Mathematics, Oceanography & Environmental Sciences, Physics, with Modern Languages also possible

Year 3

Semester 1	Semester 2
Further Inorganic Chemistry (15 credits)	Further Physical Chemistry (15 credits)
Further Organic Chemistry (15 credits)	Practical Chemistry: Introductory project (15 credits)
Practical Chemistry with Database Skills (30 credits)	Catalysis (15 credits)
	Two 7.5 credit modules from: Biorenewable Chemicals from Biomass Heterocyclic Chemistry & Drug Synthesis Introduction to Chemical Engineering Protein Structure and Dynamics Or Basic Physics for Nanotechnology (15 credits)

Year 2

Semester 1	Semester 2
Physical Chemistry II (15 credits)	
Organic Chemistry II (15 credits)	Metals & metalloids of the p- & d- blocks (15 credits)
Preparative Chemistry: Synthesis and Characterisation (15 credits)	Measurements in Chemistry (15 credits)
Key Skills for Chemists (15 credits)	
Functional Organic Materials (15 credits) Or 15 credits of subsidiary modules from outside the Department	Inorganic Applications of Group Theory (7.5 credits)
	One 7.5 credit module from: Chemistry for Sustainable Technologies Introduction to Medicinal Chemistry Nanoscale Processes in Biology Or 7.5 credits of subsidiary modules from other departments
For those interested in Science Communication, we offer a 15 credit module that can be taken as an alternative to the optional modules suggested above.	

Year 4

Semester 1	Semester 2
Chemical Research Project (60 credits)	
Four 7.5 credit modules from: Advanced Spectroscopy Asymmetric Synthesis and Main Group Organic Chemistry (P, S, Se) Electrochemistry Lanthanide and Actinide Chemistry Main Group Organic Chemistry Supramolecular Chemistry	Four 7.5 credit modules from: Asymmetric Catalysis for Organic & Pharmaceutical Chemical Biology – Chemistry of Life Chemical Nanotechnology Introduction to Nanomedicine Modelling of Functional Materials & Interfaces NMR Spectroscopy Organic Electronics Protein Structure and Dynamics Solid State & Energy Storage Materials

The credits give a rough estimate of the length of the course. A 15 credit lecture course would involve ~35 lectures and 6 tutorials.

The University of Liverpool: F161 Chemistry with Research in Industry (MChem)

Year 1

Semester 1	Semester 2
Introductory Organic Chemistry (30 credits)	
Introductory Inorganic Chemistry (15 credits)	Introductory Physical Chemistry (15 credits)
Introductory Spectroscopy (15 credits)	
Key Skills for Chemists (15 credits)	
Foundations of Medicinal Chemistry (15 credits)	Innovative Chemistry for Energy and Materials (15 credits)
Or 15 credits of subsidiary modules from outside the Department	Or 15 credits of subsidiary modules from outside the Department

Subsidiary modules available from:

Archaeology, Life Sciences, Mathematics, Oceanography & Environmental Sciences, Physics, with Modern Languages also possible

Year 2

Semester 1	Semester 2
Physical Chemistry II (15 credits)	
Organic Chemistry II (15 credits)	Metals & metalloids of the p- & d- blocks (15 credits)
Preparative Chemistry: Synthesis and Characterisation (15 credits)	Measurements in Chemistry (15 credits)
Key Skills for Chemists (15 credits)	
Functional Organic Materials (15 credits) Or 15 credits of subsidiary modules from outside the Department	Inorganic Applications of Group Theory (7.5 credits)
	One 7.5 credit module from: Chemistry for Sustainable Technologies Introduction to Medicinal Chemistry Nanoscale Processes in Biology Or 7.5 credits of subsidiary modules from other departments
For those interested in Science Communication, we offer a 15 credit module that can be taken as an alternative to the optional modules suggested above.	

Year 3

Semester 1	Semester 2
Industrial Placement (90 credits)	
Distance learning module: Advanced Chemistry (30 credits)	

Year 4

Semester 1	Semester 2
Chemical Research Project (60 credits)	
Four 7.5 credit modules from: Advanced Spectroscopy Asymmetric Synthesis and Main Group Organic Chemistry (P, S, Se) Electrochemistry Lanthanide and Actinide Chemistry Main Group Organic Chemistry Supramolecular Chemistry	Four 7.5 credit modules from: Asymmetric Catalysis for Organic & Pharmaceutical Chemical Biology – Chemistry of Life Chemical Nanotechnology Introduction to Nanomedicine Modelling of Functional Materials & Interfaces NMR Spectroscopy Organic Electronics Protein Structure and Dynamics Solid State & Energy Storage Materials

The credits give a rough estimate of the length of the course. A 15 credit lecture course would involve ~35 lectures and 6 tutorials.

The University of Liverpool: F1BF Medicinal Chemistry with Pharmacology (MChem)

Year 1

Semester 1	Semester 2
Introductory Organic Chemistry (30 credits)	
Introductory Inorganic Chemistry (15 credits)	Introductory Physical Chemistry (15 credits)
Introductory Spectroscopy (15 credits)	
Key Skills for Chemists (15 credits)	
Foundations of Medicinal Chemistry (15 credits)	Introduction to Physiology and Pharmacology (15 credits)

Year 2

Semester 1	Semester 2
Physical Chemistry II (15 credits)	
Organic Chemistry II (15 credits)	Metals & metalloids of the p- & d- blocks (15 credits)
Preparative Chemistry: Synthesis and Characterisation (15 credits)	Measurements in Chemistry (15 credits)
Key Skills for Chemists (15 credits)	
Principles of Pharmacology (15 credits)	Practical Pharmacology (7.5 credits)
	Introduction to Medicinal Chemistry (7.5 credits)

Year 3

Semester 1	Semester 2
Further Inorganic Chemistry (15 credits)	Antimicrobial Chemotherapy for Chemists (15 credits)
Further Organic Chemistry (15 credits)	Practical Chemistry: Introductory project in a medicinal chemistry related research group (15 credits)
Practical Chemistry (15 credits)	Drug Action (15 credits)
Medicinal Chemistry of Anti-Infectives (7.5 credits)	Protein Structure and Dynamics (7.5 credits)
Chemical Database Skills (7.5 credits)	Heterocyclic Chemistry & Drug Synthesis (7.5 credits)

Year 4

Semester 1	Semester 2
Chemical Research Project in a medicinal chemistry related research group (60 credits)	
Cardiovascular and Respiratory Pharmacology (7.5 credits)	Cancer Pharmacology (7.5 credits)
Drug Metabolism and Drug Response (7.5 credits)	Two 7.5 credit modules from (including at least one organic): Asymmetric Catalysis for Organic & Pharmaceutical Chemical Biology – Chemistry of Life Chemical Nanotechnology Introduction to Nanomedicine NMR Spectroscopy Organic Electronics Solid State & Energy Storage Materials
Molecular and Neuropharmacology (7.5 credits)	
Main Group Organic Chemistry (7.5 credits)	
Asymmetric Synthesis and Main Group Organic Chemistry (P, S, Se) (7.5 credits)	

The credits give a rough estimate of the length of the course. A 15 credit lecture course would involve ~35 lectures and 6 tutorials.

The University of Liverpool: Chemistry for Sustainable Energy (MChem)

Please note that this is a new programme which is being developed and will be in place for 2017-18. It will be given a UCAS code at a later date. Specific details are still subject to change.

Year 1

Semester 1	Semester 2
Introductory Organic Chemistry (30 credits)	
Introductory Inorganic Chemistry (15 credits)	Introductory Physical Chemistry (15 credits)
Introductory Spectroscopy (15 credits)	
Key Skills for Chemists (15 credits)	
Foundations of Medicinal Chemistry (15 credits) Or 15 credits of subsidiary modules from outside the Department	Innovative Chemistry for Energy and Materials (15 credits)

Subsidiary modules available from:

Archaeology, Life Sciences, Mathematics, Oceanography & Environmental Sciences, Physics, with Modern Languages also possible

Year 3

Semester 1	Semester 2
Further Inorganic Chemistry (15 credits)	Further Physical Chemistry (15 credits)
Further Organic Chemistry (15 credits)	Practical Chemistry: Introductory project in an energy chemistry related research group (15 credits)
Practical Chemistry with Database Skills (30 credits)	Catalysis (15 credits)
	Biorenewable Chemicals from Biomass (7.5 credits)
	Energy pathways (7.5 credits)

Year 2

Semester 1	Semester 2
Physical Chemistry II (15 credits)	
Organic Chemistry II (15 credits)	Metals & metalloids of the p- & d- blocks (15 credits)
Preparative Chemistry: Synthesis and Characterisation (15 credits)	Measurements in Chemistry (15 credits)
Key Skills for Chemists (15 credits)	
Functional Organic Materials (15 credits)	Inorganic Applications of Group Theory (7.5 credits)
	Chemistry for Sustainable Technologies (7.5 credits)

Year 4

Semester 1	Semester 2
Chemical Research Project in an energy chemistry related research group (60 credits)	
Electrochemistry (7.5 credits)	Solid State Chemistry and Energy Storage Materials (7.5 credits)
Three 7.5 credit modules from: Advanced Spectroscopy Asymmetric Synthesis and Main Group Organic Chemistry (P, S, Se) Lanthanide and Actinide Chemistry Main Group Organic Chemistry Supramolecular Chemistry	Solar Energy Conversion (7.5 credits)
	Nano energy (7.5 credits)
	One optional module from the standard MChem option list (7.5 credits)

The credits give a rough estimate of the length of the course. A 15 credit lecture course would involve ~35 lectures and 6 tutorials.

The University of Liverpool: F100 Chemistry (BSc)

Year 1

Semester 1	Semester 2
Introductory Organic Chemistry (30 credits)	
Introductory Inorganic Chemistry (15 credits)	Introductory Physical Chemistry (15 credits)
Introductory Spectroscopy (15 credits)	
Key Skills for Chemists (15 credits)	
Foundations of Medicinal Chemistry (15 credits)	Innovative Chemistry for Energy and Materials (15 credits)
Or 15 credits of subsidiary modules from outside the Department	Or 15 credits of subsidiary modules from outside the Department

Subsidiary modules available from:

Archaeology, Life Sciences, Mathematics, Oceanography & Environmental Sciences, Physics, with Modern Languages also possible

Year 3

Semester 1	Semester 2
Further Inorganic Chemistry (15 credits)	Modern Applications of Physical Chemistry (15 credits)
Further Organic Chemistry (15 credits)	Chemistry Project (15 credits)
Further Key Skills with Molecular Modelling (15 credits)	
Chemical Database Skills (7.5 credits)	22.5 credits from the same Chemistry options as year 2 or from the following:
Practical Chemistry (15 credits)	<p>7.5 credit modules include: Biorenewable Chemicals from Biomass Heterocyclic Chemistry & Drug Synthesis Introduction to Chemical Engineering</p> <p>15 credit modules include: Basic Physics for Nanotechnology Science Communication</p>

Year 2

Semester 1	Semester 2
Physical Chemistry II (15 credits)	
Organic Chemistry II (15 credits)	Metals & metalloids of the p- & d- blocks (15 credits)
Preparative Chemistry: Synthesis and Characterisation (15 credits)	Measurements in Chemistry (15 credits)
Key Skills for Chemists (15 credits)	
Functional Organic Materials (15 credits)	Two 7.5 credit modules from:
Or 15 credits of subsidiary modules from outside the Department	Chemistry for Sustainable Technologies Inorganic Applications of Group Theory Introduction to Medicinal Chemistry Nanoscale Processes in Biology
	Or 15 credits of subsidiary modules from other departments
For those interested in Science Communication, we offer a 15 credit module that can be taken as an alternative to the optional modules suggested above.	

The credits give a rough estimate of the length of the course. A 15 credit lecture course would involve ~35 lectures and 6 tutorials.

The University of Liverpool: F111 Chemistry with a Year in Industry (BSc)

Year 1

Semester 1	Semester 2
Introductory Organic Chemistry (30 credits)	
Introductory Inorganic Chemistry (15 credits)	Introductory Physical Chemistry (15 credits)
Introductory Spectroscopy (15 credits)	
Key Skills for Chemists (15 credits)	
Foundations of Medicinal Chemistry (15 credits)	Innovative Chemistry for Energy and Materials (15 credits)
Or 15 credits of subsidiary modules from outside the Department	Or 15 credits of subsidiary modules from outside the Department

Subsidiary modules available from:

Archaeology, Life Sciences, Mathematics, Oceanography & Environmental Sciences, Physics, with Modern Languages also possible

Year 3

Semester 1	Semester 2
Industrial Placement	

Year 2

Semester 1	Semester 2
Physical Chemistry II (15 credits)	
Organic Chemistry II (15 credits)	Metals & metalloids of the p- & d- blocks (15 credits)
Preparative Chemistry: Synthesis and Characterisation (15 credits)	Measurements in Chemistry (15 credits)
Key Skills for Chemists (15 credits)	
Functional Organic Materials (15 credits)	Two 7.5 credit modules from:
Or 15 credits of subsidiary modules from outside the Department	Chemistry for Sustainable Technologies Inorganic Applications of Group Theory Introduction to Medicinal Chemistry Nanoscale Processes in Biology
	Or 15 credits of subsidiary modules from other departments
For those interested in Science Communication, we offer a 15 credit module that can be taken as an alternative to the optional modules suggested above.	

Year 4

Semester 1	Semester 2
Inorganic Chemistry III (15 credits)	Modern Applications of Physical Chemistry (15 credits)
Organic Chemistry III (15 credits)	Chemistry Project (15 credits)
Further Key Skills with Molecular Modelling (15 credits)	
Chemical Database Skills (7.5 credits)	22.5 credits from the same Chemistry options as year 2 or from the following: 7.5 credit modules include: Biorenewable Chemicals from Biomass Heterocyclic Chemistry & Drug Synthesis Introduction to Chemical Engineering
Practical Chemistry (15 credits)	

The credits give a rough estimate of the length of the course. A 15 credit lecture course would involve ~35 lectures and 6 tutorials.

The University of Liverpool: F1B2 Medicinal Chemistry (BSc)

Year 1

Semester 1	Semester 2
Introductory Organic Chemistry (30 credits)	
Introductory Inorganic Chemistry (15 credits)	Introductory Physical Chemistry (15 credits)
Introductory Spectroscopy (15 credits)	
Key Skills for Chemists (15 credits)	
Foundations of Medicinal Chemistry (15 credits)	Introduction to Physiology and Pharmacology (15 credits)

Year 2

Semester 1	Semester 2
Physical Chemistry II (15 credits)	
Organic Chemistry II (15 credits)	Metals & metalloids of the p- & d- blocks (15 credits)
Preparative Chemistry: Synthesis and Characterisation (15 credits)	Measurements in Chemistry (15 credits)
Key Skills for Chemists (15 credits)	
Principles of Pharmacology (15 credits)	Practical Pharmacology (7.5 credits)
	Introduction to Medicinal Chemistry (7.5 credits)

Year 3

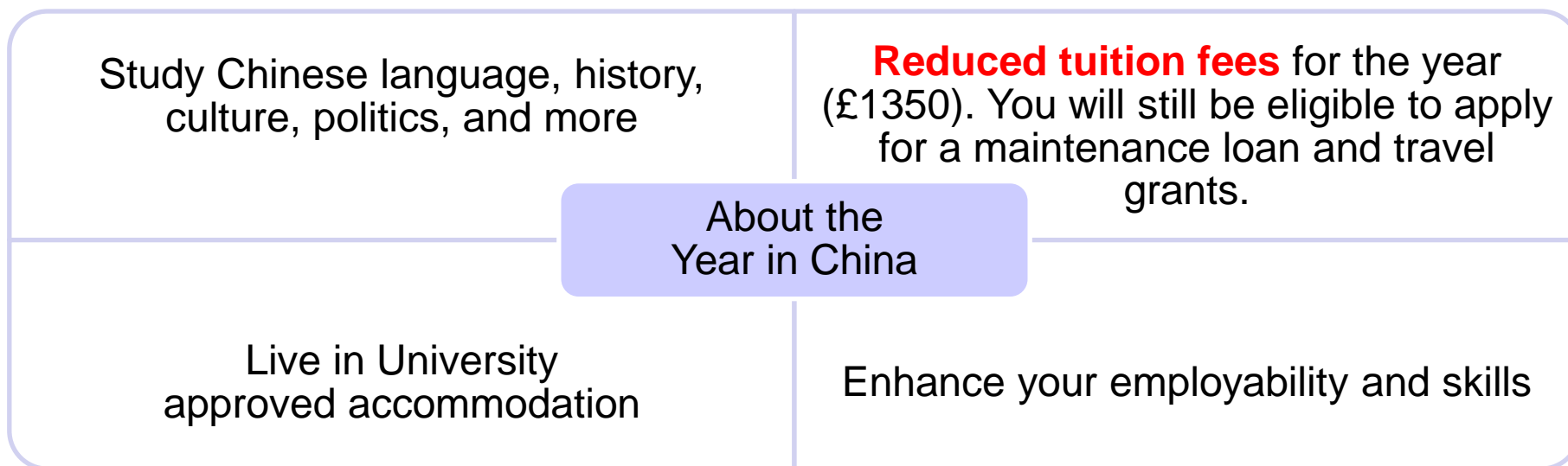
Semester 1	Semester 2
Further Organic Chemistry (15 credits)	Chemistry Project (15 credits)
Further Key Skills with Molecular Modelling (15 credits)	
Medicinal Chemistry of Anti-Infectives (7.5 credits)	Drug Action (15 credits)
Chemical Database Skills (7.5 credits)	Antimicrobial Chemotherapy for Chemists (15 credits)
Practical Chemistry (15 credits)	Heterocyclic Chemistry & Drug Synthesis (7.5 credits)
	<p>One 7.5 credit module from:</p> <ul style="list-style-type: none"> Biorenewable Chemicals from Biomass Chemistry for Sustainable Technologies Inorganic Applications of Group Theory Introduction to Chemical Engineering Nanoscale Processes in Biology

The credits give a rough estimate of the length of the course. A 15 credit lecture course would involve ~35 lectures and 6 tutorials.

The University of Liverpool: Chemistry and a Year in China

Spend an additional year in China at a **fully English-speaking** university and graduate with new programme titled “xxx with a Year in China”.

The Year in China programmes will be available for all Chemistry programmes except “Chemistry with a Year in Industry” programmes (MChem and BSc).



More information about the Year in China programmes can be found at:
<http://www.liverpool.ac.uk/study/undergraduate/goabroad/year-in-china/>

The University of Liverpool: Study abroad opportunities in Year 2

- Study at fully English-speaking universities.
- No extra time added to your degree.
- Travel grants paid to all students (£500-£750). You do not have to pay them back.
- Free travel insurance.
- You will still be eligible to apply for a maintenance loan and travel grants.
- **Study abroad in China at XJTLU:**
Home/EU students pay fees of **£1350 for the full year and £675 for a semester.**
International students pay half the normal fees.

Current host institutions

Semester one:

- USA: Boston, University of Georgia
- Canada: Dalhousie, McGill, University of Ottawa

Semester two:

- Australia: Monash, Queensland University of Technology
- XJTLU in China

A full academic year:

- XJTLU in China

More information about the study abroad opportunities can be found at:

<http://www.liv.ac.uk/study/undergraduate/goabroad/>