

BSC (HONS) CHEMICAL PHYSICS

Programme Requirements

Code	Title	Credits
Year 1		
Students take 60 credits as follows:		60
CK406 (https://ucc-ie-public.courseleaf.com/programmes/bsccm/) ¹		
or		
CK408 (https://ucc-ie-public.courseleaf.com/programmes/bscpy/) ²		
Year 2		
Students take 60 credits as follows:		
<i>Core Modules</i>		
<i>Chemistry</i>		
CM2001	Main Group and Transition Element Chemistry	5
CM2003	Energetics and Kinetics	5
CM2004	States of Matter ³	5
or CM2101	Introductory Organic Chemistry for Environmental Scientists	
CM2007	Spectroscopy	5
CM2008	Structure, Bonding and Quantum Mechanics	5
<i>Physics</i>		
PY2102	Introduction to Quantum Physics	5
PY2103	Electrostatics and Magnetostatics	5
PY2104	Introduction to Thermodynamics and Statistical Physics	5
PY2105	Introduction to Computational Physics	5
PY2108	Experimental Methods I	5
<i>Applied Mathematics</i>		
AM2071	Transform and Variational Methods	5
<i>Mathematics</i>		
MA2071	Multivariable Calculus	5
Year 3		
Students take 60 credits as follows:		
<i>Core Modules</i>		
<i>Chemistry</i>		
CM3016	Molecules and Radiation	5
CM3017	Reaction Kinetics and Electrochemistry	5
CM3025	Materials Chemistry	5
CM3028	Scientific Communication and Information Literacy Skills	5
CM3104	Environmental Chemistry and Analysis	5
<i>Physics</i>		
PY3101	Optics	5
PY3102	Quantum Mechanics	5
PY3103	Electromagnetism	5
PY3105	Introduction to Condensed Matter Physics	5
PY3108	Experimental Methods II	5
<i>Applied Mathematics</i>		
AM2060	Object Oriented Programming with Applications	5
<i>Mathematics</i>		

AM2061 Computer Modelling and Numerical Techniques 5

Year 4

Students take **60** credits as follows – all listed core modules (**50** credits) and **10** credits of elective modules:

<i>Core Modules</i>		
<i>Chemical Physics</i>		
CY4002	Advanced Chemistry Research Project	10
CY4003	Advanced Physics Research Project	10
<i>Chemistry</i>		
CM4019	Lasers, Photochemistry & Spectroscopy	5
CM4020	Interfaces & Modelling	5
CM4025	Advanced Nano Materials	5
CM4112	Atmospheric Chemistry and Air Pollution	5
<i>Physics</i>		
PY4105	Atomic and Molecular Physics	5
PY4109	Advanced Computational Physics	5
<i>Elective Modules</i>		
Students take modules to the value of 10 credits from the following:		10
PY4102	Advanced Quantum Mechanics (5)	
PY4103	Advanced Electromagnetism (5)	
PY4104	Advanced Condensed Matter Physics (5)	
PY4108	Introduction to Lasers and Photonics (5)	
PY4118	Physics of Semiconductor Devices (5)	

Total Credits **240**

¹ Students entering via CK406 must take modules from Option 2 (see CK406 programme requirements).

² Students entering via CK408 must take either CM1006 or CM1007.

³ Students who took CM1007 or CM1201 in First Science must take CM2004. Students who took CM1006 in First Science must take CM2101.

Examinations

Full details and regulations governing Examinations for each programme will be contained in the *Marks and Standards Book* and for each module in the *Book of Modules*.