



ACCREDITED  
DEGREE

The University of Hong Kong  
Department of Chemistry

### **Intensive Chemistry Major Curriculum (144 credits)\***

\* this intensive major has been accredited by the Royal Society of Chemistry (RSC)

In November 2015, the intensive version of BSc Chemistry Major Curriculum (144 credits) was accredited by the Royal Society of Chemistry (RSC), the world's leading chemistry community and professional body. The RSC accreditation is a rigorous evaluation process that is respected around the world. Thus, the accreditation of our programme is a strong recognition of the excellent standards and high quality education the Department of Chemistry offers. We are delighted to be the first university in Hong Kong to receive the RSC accreditation for a BSc Chemistry Programme. As the standard validation period is 5 years, at present (2020 summer), the Department is seeking re-accreditation of the curriculum from the RSC.

This intensive Chemistry-Major Curriculum (144 credits, *see next page for curriculum details*) is built upon the regular Chemistry-Major curriculum (96 credits) by adding 48 credits more of courses to form a comprehensive coverage of different branches of chemistry. **The intensive chemistry curriculum is intended for students who wish to attain higher proficiency in Chemistry.** As a standard policy of the RSC, students must follow the agreed programme in full in order to graduate with this accredited programme. Upon completion of the programme, in addition to having "Major in Chemistry (Intensive)" marked in the hku official transcript, students will also be issued with a certificate by the Department of Chemistry, with authorization by RSC, to recognize their achievement.

All final year students doing this accredited programme will be qualified to apply for membership to RSC. Graduates from the accredited programme will have an advantage not only when applying for jobs but also when they are looking for professional qualifications, such as chartered chemist (CChem) status. Membership with RSC will further improve the visibility and recognition of the Chemistry programme and improve students' chances to pursue higher education and obtain employment both locally and overseas.

**Intensive Chemistry Major Curriculum / RSC Accredited Chemistry Programme**  
**(144 credits)**

<b>1. Introductory Level (54 credits)</b>			
<b>Disciplinary Core Courses: Science Foundation Courses (12 credits)</b>			
SCNC1111	Scientific method and reasoning #	6 credits	
SCNC1112	Fundamentals of modern science #	6 credits	
<b>Disciplinary Core Courses (36 credits)</b>			
CHEM1042	General chemistry I #	6 credits	
CHEM1043	General chemistry II #	6 credits	
CHEM2241	Analytical chemistry I #	6 credits	
CHEM2341	Inorganic chemistry I #	6 credits	
CHEM2441	Organic chemistry I #	6 credits	
CHEM2541	Introductory physical chemistry #	6 credits	
<b>Disciplinary Electives (6 credits)</b>			
<b>Select 6 credits from the following.</b>			
<i>Students are encouraged to meet with a Chemistry Course Selection Advisor in the course selection period to discuss which of the following courses they should take based on their previous background in Mathematics.</i>			
CHEM1044	Mathematics in chemistry	6 credits	
COMP1117	Computer programming	6 credits	
MATH1011	University mathematics I	6 credits	
MATH1013	University mathematics II	6 credits	
STAT1601	Elementary statistical methods	6 credits	
STAT1603	Introductory statistics	6 credits	
<b>2. Advanced level courses (78 credits)</b>			
<b>Disciplinary Core Courses (66 credits)</b>			
CHEM3143	Introduction to materials chemistry	6 credits	
CHEM3241	Analytical chemistry II: chemical instrumentation #	6 credits	
CHEM3341	Inorganic chemistry II #	6 credits	
CHEM3441	Organic chemistry II #	6 credits	
CHEM3443	Organic chemistry laboratory #	6 credits	
CHEM3445	Integrated laboratory	6 credits	
CHEM3541	Physical chemistry: introduction to quantum chemistry #	6 credits	
CHEM3542	Physical chemistry: statistical thermodynamics and kinetics theory	6 credits	
CHEM4142	Symmetry, group theory and applications	6 credits	
CHEM4144	Advanced materials	6 credits	
CHEM4241	Modern chemical instrumentation and applications	6 credits	
<i>To be continued next page</i>			

<b>Disciplinary Electives (12 credits)</b>			
<b>Select at least 12 credits from the following. Note that one of the two elective courses selected must contain a laboratory component. Courses marked with (lab) have a laboratory component. The list of electives given below may be subject to change.</b>			
CHEM4143	Interfacial science and technology	6 credits	
CHEM4145	Medicinal chemistry	6 credits	
CHEM4147	Supramolecular chemistry	6 credits	
CHEM4148	Frontiers in modern chemical science	6 credits	
CHEM4242	Analytical chemistry (lab)	6 credits	
CHEM4341	Advanced inorganic chemistry	6 credits	
CHEM4342	Organometallic chemistry (lab)	6 credits	
CHEM4441	Advanced organic chemistry	6 credits	
CHEM4443	Integrated organic synthesis (lab)	6 credits	
CHEM4444	Chemical Biology	6 credits	
CHEM4542	Computational chemistry (lab)	6 credits	
CHEM4543	Advanced physical chemistry	6 credits	
CHEM4544	Electrochemical science and technology (lab)	6 credits	
<b>3. Capstone requirement (12 credits)</b>			
<b>Select 12 credits from the following courses.</b>			
CHEM3999	Directed studies in chemistry	6 credits	
CHEM4966	Chemistry internship	6 credits	
CHEM4999	Chemistry project	12 credits	

Notes:

- (1) Courses marked with # are core courses in the regular Chemistry-Major (96 credits) curriculum.
- (2) As this curriculum is accredited by the Royal Society of Chemistry (RSC), students **must** follow the curriculum in full (i.e. no replacement courses are possible) in order to graduate with this accredited programme. For students who have credit transfer from exchange studies, for example) a student took CHEM3A and CHEM3B in a host university during his/her exchange studies and these two courses have been approved by the Faculty of Science to be considered equivalent as CHEM3241 and CHEM3341, they will be considered taking those hku-version courses and in the example shown here, the student is seen to have taken CHEM3241 and CHEM3341 to fulfil the accredited curriculum.