



Chemistry Talk

(Major / Intensive Major / Minor)

9 Aug 2019



ROYAL SOCIETY
OF CHEMISTRY

ACCREDITED
DEGREE



Talk Schedule

A Quick Look at the
CHEM Major /
Intensive Major /
Minor Curriculum &
Course Information

(by Dr. A P L Tong)



Small-group
Discussion

*(Sharing by the
Chemistry Student
Helpers on experience in
selecting courses and
planning study route.)*



Teaching Staff Members in Department of Chemistry (in alphabetic order)



Head of Department
Prof. C.M. Che



Dr. H Y Au-Yeung
(Course Selection Advisor)



Prof. K Y Chan



Prof. W K Chan



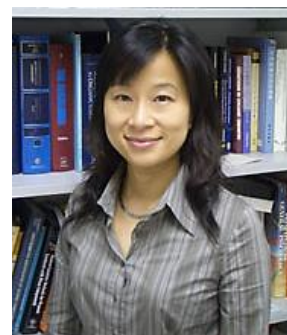
Dr. W T Chan



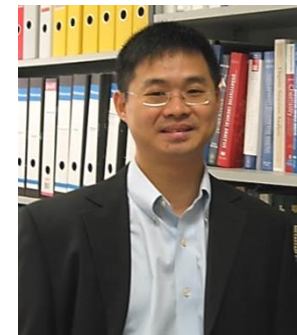
Prof. G.H. Chen



Prof. A S C Cheung



Prof. P. Chiu



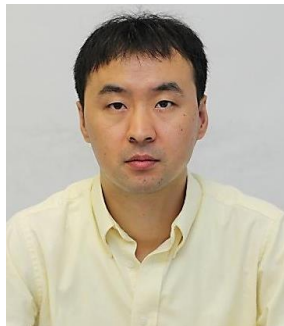
Dr. I K Chu



Dr. J He



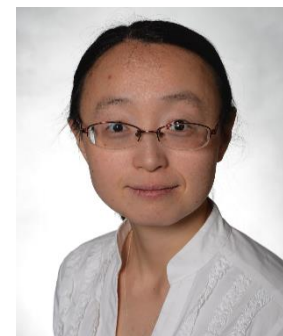
Dr. X Li



Prof. X C Li



Dr. X Y Li



Dr. Y Li

Teaching Staff Members (in alphabetic order)



Dr. Y X Li



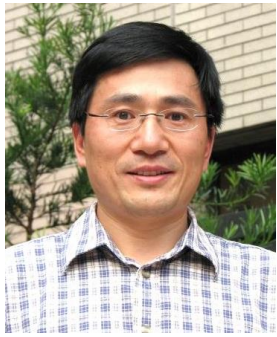
Dr. J Z Liu



Dr. K M Ng



Prof. D L Phillips



Prof. H Z Sun



Dr. J Y Tang



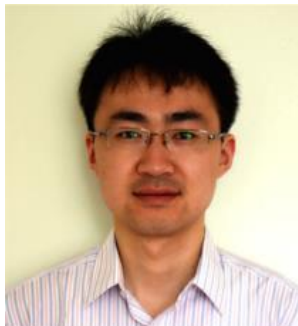
Dr. A P L Tong
(Course Selection Advisor)



Dr. P H Toy



Dr. E C M Tse
(Course Selection Advisor)



Dr. Y F Wang



Dr. J Yang



Prof. V W W Yam



Prof. D Yang



Dr. A M Y Yuen
(Course Selection Advisor)

BSc Curriculum: Choose one option

General Talk
2:00 – 3:00 pm
Grand Hall for Year 1
CPD-2.58 for Years 2/3

40 courses

Refer to Document B P.1-3

Curriculum requirements (240 credits)

Option A

Students taking one regular Science major

Option B

Students taking one regular Science major and one minor

Option C

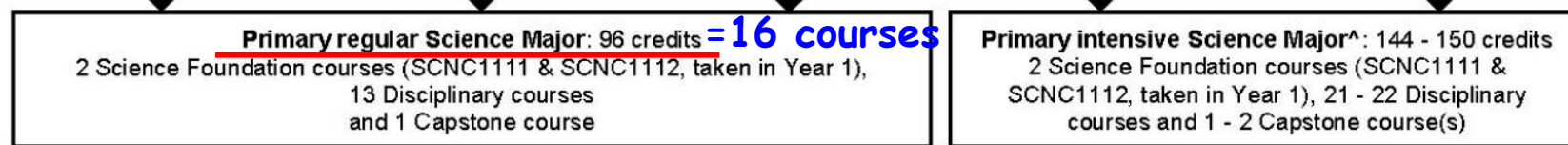
Students taking double majors (one regular Science major and a 2nd major (a non-Science major or a regular Science major))

Option D

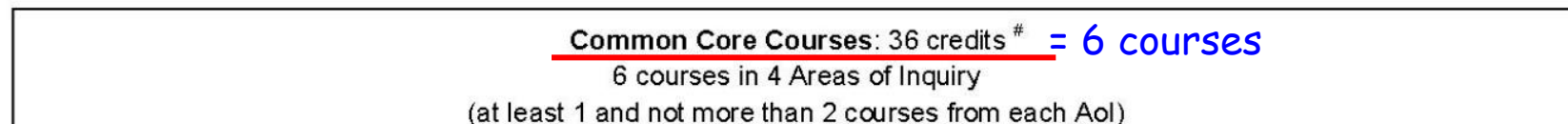
Students taking an intensive Science major

Option E

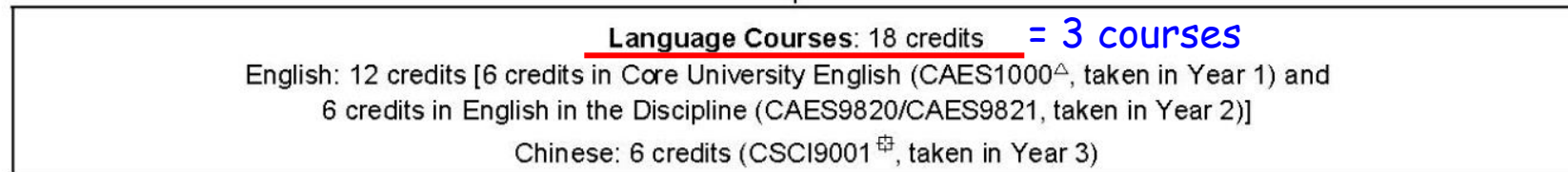
Students taking an intensive Science major and a minor



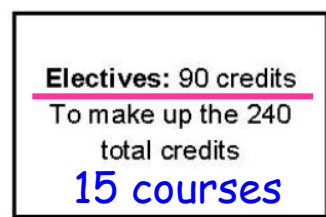
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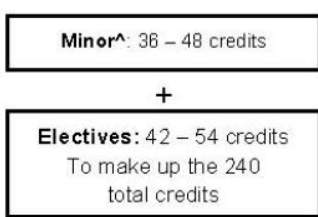
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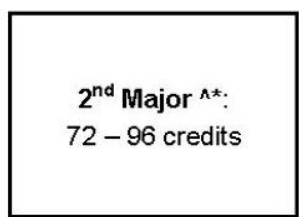
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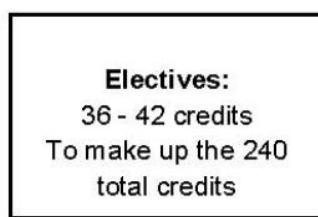
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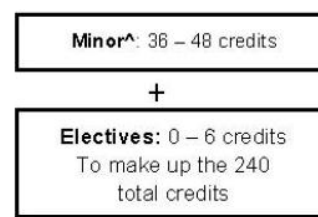
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Declaration of BSc Major/Minor

Refer to Document B P.4

- As you are **not** required to declare your major in **the first year**, you can try out courses that suit your academic interests before you commit to a particular major.
- You have to declare your primary Science major online during the course selection period **in August before the start of your third year of study, the latest.** After that, you can still change the declared major as long as the online course selection system is opened in the 1st semester of your last academic year for graduation.

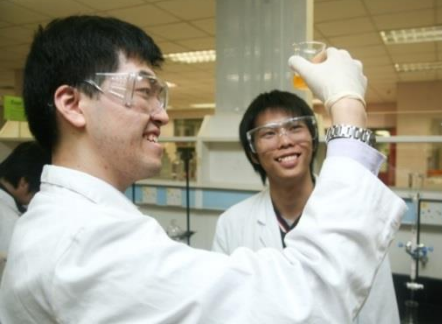
Science Course

General Talk
2:00 – 3:00 pm
Grand Hall for Year 1
CPD-2.58 for Years 2/3

Refer to Document B P.4

- An **introductory** Science course means any **levels 1 and 2** course offered by the Faculty of Science and the Department of Biochemistry.
- An **advanced** Science course means any **levels 3, 4 and above** course.

Introductory level course	Course code starting with 1 or 2 e.g. CHEM1042 General chemistry I, CHEM2541 Introductory physical chemistry
Advanced level course	Course code starting with 3, 4 or 7 e.g. CHEM3341 Inorganic chemistry II CHEM4443 Integrated organic synthesis



Major in Chemistry (96 credits)

Refer to Document A P.1-2



ACCREDITED
DEGREE

**Intensive Major in
Chemistry (144 credits)
(also called **RSC Accredited
Chemistry Programme**)**

**Minor in Chemistry
(42 credits)**

Major in Chemistry

Minimum Entry Requirement: Level 3 in HKDSE Chemistry or equivalent or a pass in CHEM1041

Refer to Document A P.2

CHEM1042



CHEM1043



Level 2
(and so on)

Required courses (96 credits)

All courses are **6-credit** unless stated otherwise.

1. Introductory level courses (48 credits)

Disciplinary Core Courses: Science Foundation Courses (12 credits)

SCNC1111 Scientific method and reasoning
SCNC1112 Fundamentals of modern science

Disciplinary Core Courses (36 credits)

CHEM1042 General chemistry I
CHEM1043 General chemistry II
CHEM2241 Analytical chemistry I
CHEM2341 Inorganic chemistry I
CHEM2441 Organic chemistry I
CHEM2541 Introductory physical chemistry

2. Advanced level courses (42 credits)

Disciplinary Core Courses (30 credits)

CHEM3241 Analytical chemistry II: chemical instrumentation
CHEM3341 Inorganic chemistry II
CHEM3441 Organic chemistry II
CHEM3443 Organic chemistry laboratory
CHEM3541 Physical chemistry: introduction to quantum chemistry

Disciplinary Electives (12 credits)

At least **12** credits of any level 4 Chemistry (CHEM4XXX) courses shown in **List A**.

List A (This list may be subject to change. Please check the online syllabus on the science faculty website from time to time):

CHEM4142	CHEM4147	CHEM4341	CHEM4444
CHEM4143	CHEM4148	CHEM4342	CHEM4542
CHEM4144	CHEM4241	CHEM4441	CHEM4543
CHEM4145	CHEM4242	CHEM4443	CHEM4544

3. Capstone requirement (6 credits)

At least 6 credits selected from the following courses:

CHEM3999 Directed studies in chemistry
CHEM4910 Chemistry literacy and research
CHEM4911 Capstone experience for chemistry undergraduates: HKUtopia
CHEM4966 Chemistry internship
CHEM4999 Chemistry project (12)

You are strongly encouraged to take more Chemistry courses as electives!
(You have 90 credits for electives.)

$$96 \text{ (Major)} + 36 \text{ (Common Core)} + 18 \text{ (Language)} + \underline{90 \text{ (Free electives)}} = 240$$

16 courses

6 courses

3 courses

15 courses

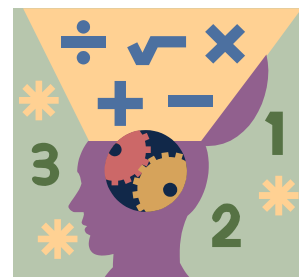
40
courses

Take more Chemistry courses (in addition to those listed in the Chem-Major Curriculum). Or you may actually opt to do the **Intensive Chemistry Major** (also named '**RSC Accredited Chemistry Programme (144 credits)**)



Take some Maths course(s)
e.g. **MATH1011 University mathematics I**
(for those with only HKDSE Maths or equivalent);
CHEM1044 Mathematics in chemistry
(for those with Module 1/2 of HKDSE Maths or equivalent)

Refer to
Document A P.3-5



Refer to
Document D



Major in Chemistry (96 credits)



ROYAL SOCIETY
OF CHEMISTRY

ACCREDITED
DEGREE

**Intensive Major in
Chemistry (144 credits)
(also called **RSC Accredited
Chemistry Programme**)**

Adding 48 credits
of CHEM courses
(i.e. 8 courses)

Refer to Document A P.3-5

Minor in Chemistry (42 credits)



Intensive Chemistry Major/RSC Accredited Programme (144 credits)

The Royal Society of Chemistry (RSC) in the UK is one of the world's leading chemistry communities and professional associations.

The RSC accreditation is a strong recognition of:

- Very high standards
- Global practice
- Effective development of students





Intensive Chemistry Major/RSC Accredited Programme (144 credits)

- Students having completed the RSC accredited chemistry programme will be **awarded a certificate** by the Department, with authorization by RSC, to recognise their achievements.
- Students in the final year of this accredited programme are qualified to apply for **membership to RSC**. A graduate with RSC membership will have an advantage, not only when applying for jobs or pursuing higher education, but also when they are seeking **professional qualifications**, such as Chartered Chemist (CChem) status.

Intensive Major in Chemistry (RSC Accredited Chemistry Programme)

Required courses (144 credits)

All courses are **6-credit** unless stated otherwise.

1. Introductory level courses (54 credits)

Disciplinary Core Courses: Science Foundation Courses (12 credits)

SCNC1111 Scientific method and reasoning (note 2)

SCNC1112 Fundamentals of modern science (note 2)

Disciplinary Core Courses (36 credits)

CHEM1042 General chemistry I (note 2)

CHEM1043 General chemistry II (note 2)

CHEM2241 Analytical chemistry I (note 2)

CHEM2341 Inorganic chemistry I (note 2)

CHEM2441 Organic chemistry I (note 2)

CHEM2541 Introductory physical chemistry (note 2)

CHEM1042(Yr 1 S1)



CHEM1043 (Yr 1 S2)



Disciplinary Electives (6 credits)

(Students are encouraged to meet with a Chemistry advisor to discuss which of the following courses they should take)

CHEM1044 Mathematics in chemistry

COMP1117 Computer programming

MATH1011 University mathematics I

MATH1013 University mathematics II

STAT1601 Elementary statistics methods

STAT1603 Introductory statistics

Take 1 or 2 from (CHEM2241/2341/2441) (Yr 1 S2)

Take the remaining in Yr 2 S1

Take CHEM2541 in Yr 2 S2

If you will take CHEM1044, it is good to take it in Yr 1 S2 or Yr 2 S2

2. Advanced level courses (78 credits)

Disciplinary Core Courses (66 credits)

CHEM3143	Introduction to materials chemistry	
CHEM3241	Analytical chemistry II: chemical instrumentation	
CHEM3341	Inorganic chemistry II	
CHEM3441	Organic chemistry II	
CHEM3443	Organic chemistry laboratory	
CHEM3445	Integrated laboratory	
CHEM3541	Physical chemistry: introduction to quantum chemistry	(note 2)
CHEM3542	Physical chemistry: statistical thermodynamics and kinetics theory	
CHEM4142	Symmetry, group theory and applications	
CHEM4144	Advanced materials	
CHEM4241	Modern chemical instrumentation and applications	

Do not delay in taking Level-3 CHEM courses (Take the Level-3 CHEM courses as early as possible – in year 3)

Disciplinary Electives (12 credits)

At least **12** credits selected from the following courses:

*(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.)*

CHEM4143	Interfacial science and technology	CHEM4441	Advanced organic chemistry
CHEM4145	Medicinal chemistry	CHEM4443	Integrated organic synthesis (lab)
CHEM4147	Supramolecular chemistry	CHEM4444	Chemical biology
CHEM4148	Frontiers in modern chemical science	CHEM4542	Computational chemistry (lab)
CHEM4242	Analytical chemistry (lab)	CHEM4543	Advanced physical chemistry
CHEM4341	Advanced inorganic chemistry	CHEM4544	Electrochemical science and technology (lab)
CHEM4342	Organometallic chemistry (lab)		

3. Capstone requirement (12 credits)

Select **12** credits from the following courses:

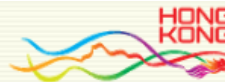
- CHEM3999 Directed studies in chemistry
- CHEM4966 Chemistry internship
- CHEM4999 Chemistry project (12)

Notes:

1. Students must have level 3 or above in HKDSE Chemistry or equivalent to take this major. Students who do not fulfill this requirement are advised to take CHEM1041 Foundations of chemistry.
2. These are core courses in the regular Chemistry Major (96 credits) curriculum.
3. 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 deemed to have taken CHEM3241 and CHEM3341 to fulfil the accredited curriculum.

Remarks:

Important! Ultimate responsibility rests with students to ensure that the required pre-requisites and co-requisite of selected courses are fulfilled. Students must take and pass all required courses in the selected primary science major in order to satisfy the degree graduation requirements.



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Career Opportunities

The two main grades in which scientific staff in the Government Laboratory are employed are:

1. the professional grade, with Chemist as the entry rank, and
2. the technical grade, with Science Laboratory Technician II as the entry rank.

The basic entry requirements for the Chemist rank are:

1. a good honours degree (1st or 2nd class honours) in Chemistry, Biochemistry or Forensic Science from a Hong Kong university or equivalent and a Master Degree in Chemistry, Biochemistry, Forensic Science, Food Science or Environmental Science from a Hong Kong university or equivalent;

OR

2. a good honours degree (1st or 2nd class honours) in Chemistry, Biochemistry or Forensic Science from a Hong Kong university or equivalent and two years' relevant post-graduate experience;

AND

3. a pass result in the Aptitude Test in the Common Recruitment Examination (CRE);

AND

4. having met the language proficiency requirements of 'Level 1' results in the two language papers (Use of Chinese and Use of English) in the CRE, or equivalent.

(Note: Candidates should have taken Chemistry, Biochemistry or Forensic Science as a major subject for the Bachelor Degree, i.e. with 2/3 of the total number of units or papers taken in Chemistry, Biochemistry or Forensic Science.)

The basic entry requirements for Science Laboratory Technician II are:

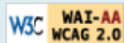
1. a Diploma in Chemical Technology from a Hong Kong polytechnic / polytechnic university, the Hong Kong Institute of Vocational Education or a technical college / technical institute, or equivalent;

AND

2. met the language proficiency requirements of Level 2 or above in Chinese Language and English Language in the Hong Kong Diploma of Secondary Education Examination or Hong Kong Certificate of Education Examination, or equivalent ^{Note}.

(Note: For civil service appointment purpose, with effect from 8 August 2007, 'Grade C' and 'Grade E' in Chinese Language and English Language (Syllabus B) in previous HKCEE are accepted administratively as comparable to 'Level 3' and 'Level 2' respectively in Chinese Language and English Language in the 2007 HKCEE.)

Interested parties who wish to apply for a position in the Government Laboratory should look for appropriate HKSAR Government recruitment advertisements in newspapers or in [Government Vacancies Enquiry System](#) on the internet. Enquiry and application procedures of the Common Recruitment Examination is available at the webpage of [Civil Service Bureau](#).



Minimum Entry Requirement:

Level 3 in HKDSE Chemistry or equivalent or a pass in CHEM1041

Minor in Chemistry

Required courses (42 credits)

*All courses are **6-credit** unless stated otherwise.*

1. Introductory level courses (24 credits)

Disciplinary Core Courses (12 credits)

CHEM1042 General Chemistry I

CHEM1043 General Chemistry II

Disciplinary Electives (12 credits)

At least 12 credits selected from the following courses:

CHEM2241 Analytical chemistry I

CHEM2341 Inorganic chemistry I

CHEM2441 Organic chemistry I

CHEM2442 Fundamentals of organic chemistry

CHEM2541 Introductory physical chemistry

} (CHEM2441 and CHEM2442 are mutually exclusive)

2. Advanced level courses (18 credits)

At least 18 credits of advanced level Chemistry courses (CHEM3XXX or CHEM4XXX level), subject to pre-requisite requirements. Please refer to the online syllabus for the current course list (<https://webapp.science.hku.hk/sr4/servlet/enquiry?Type=Minor&Code=MinorInChemistry&AdmissionYear=2019>).

A red notebook with a textured cover and a stack of white pages is positioned in the top-left corner. An orange pencil with a sharpened lead tip lies diagonally across the bottom-left corner.

**For details of
Chemistry Courses
on offer in 2019-2020,
please refer to**

Document C

Chemistry Prizes / Scholarships

Department of Chemistry Website: www.chemistry.hku.hk



Dick Arthur Memorial Prize in Chemistry (\$2,800)

Douglas Payne Prizes in Chemistry (\$1,200)

G.T. Byrne Memorial Prize in Chemistry (\$5,000)

Cheung King Pak Memorial Scholarship (\$10,000)

Dorothy Collins Memorial Scholarships (\$10,000)

Mak Kai Hung Memorial Scholarships (\$10,000)

Norman Chui Scholarship (\$5,000)

Rayson Huang Scholarships (\$10,000)

Vacoas II Trust Scholarships (\$10,000)

Course Selection Exercise

General Talk 2:00 – 3:00 pm
Grand Hall for Year 1
CPD-2.58 for Years 2/3

BSc, BSc(ActuarSc) & BAsc(AppliedAI) – Year 1

Refer to
Document B
P.5-6

Date (2019)	Event	Venue	
From August 8	The course information system opens for freshmen (after performing master registration online) to preview available courses in the first and second semesters.	HKU Portal – SIS	
August 9	Attendance is COMPULSORY	<i>Induction Day for BSc Freshmen (9:30 am – 4:00 pm)</i> (In addition to a general talk session, representatives from each Science major/minor will be present to advise students on general, as well as specific aspects, of course selection. Teachers and students will also be available in the information booths for each Science major and minor to answer questions.)	Grand Hall, Lower Ground Floor, Centennial Campus
		<i>Information Session for BSc(ActuarSc) Freshmen (2:00 pm – 4:00 pm)</i> (Representatives from Actuarial Science programme will be present to advise students on general, as well as specific aspects, of course selection. Towards the end of the session, students are free to ask questions.)	CPD-LG.18, Lower Ground Floor, Central Podium Levels, Centennial Campus
		<i>Information Session for BAsc(AppliedAI) Freshmen (2:00 pm – 4:00 pm)</i> (Representatives from Applied Artificial Intelligence programme will be present to advise students on general, as well as specific aspects, of course selection. Towards the end of the session, students are free to ask questions.)	CPD-LG.34, Lower Ground Floor, Central Podium Levels, Centennial Campus
August 16 (by 5:45 pm)	Deadline of Application for (a) Granting of Advanced Standing and (b) Exemption from Taking Chinese language course	Faculty Office	
August 21 (10:00 am) – August 27 (4:00 pm)	On-line course selection system available: <ul style="list-style-type: none"> ● Semester 1 / full-year courses from 10:00 am ● Semester 2 courses from 10:10 am (Note: Selection of summer courses will only be available during the 2 nd semester add/drop period.)	HKU Portal – SIS	
	Students to seek advice from Course Selection Advisers on how to select courses	Course Selection Advisers' offices	
August 22 (9:00 am – 2:30 pm)	Suspension period of the online course selection system (Course add/drop is not allowed.) Students are highly recommended to select courses which require course based approval before the suspension period.	---	
August 27 (by 4:00 pm)	Closing date for students' submission of: <ol style="list-style-type: none"> (a) Application Form for Taking Course Load Deviating from the Normal Load in a given semester, with the written endorsement from the Chief Course Selection Adviser of the intended primary major/programme (if applicable); (Note: Students are not allowed to take more than 72 credits of courses in the first year of study.) (b) Course Approval Form* (if applicable); and (c) Application Form for Taking a Replacement Course (if applicable) 	Faculty Office	
August 31 (9:00 am)	Checking of course selection status and ballot result (including CAES1000) on-line	HKU Portal – SIS	

Course Selection Exercise

General Talk 2:00 – 3:00 pm
Grand Hall for Year 1
CPD-2.58 for Years 2/3

Refer to
Document B
P.5-6

BSc & BSc(ActuarSc) – Year 2 and above

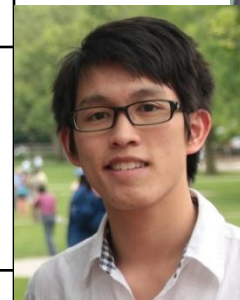
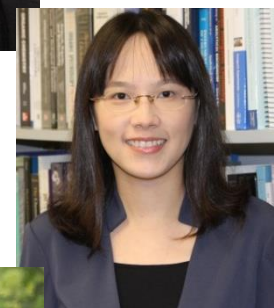
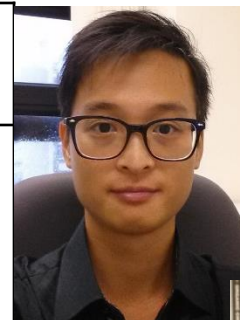
Date (2019)	Event	Venue
July 29 (10:00 am)	The course information system opens for Year 2 and above students to preview their available courses in the first and second semesters.	HKU Portal – SIS
August 7 (10:00 am) – August 13 (4:00 pm)	On-line course selection system available on August 7 to: <ul style="list-style-type: none"> ● Year 4 or above students: Semester 1 / full-year courses from 10:00 am; Semester 2 courses from 10:10 am ● Year 3 students: Semester 1 / full-year courses from 12:00 nn; Semester 2 courses from 12:10 pm ● Year 2 students: Semester 1 / full-year courses from 2:00 pm; Semester 2 courses from 2:10 pm (Note: Selection of summer courses will only be available during the 2 nd semester add/drop period.)	HKU Portal – SIS
	Students to seek advice from Course Selection Advisers on how to select courses	Course Selection Advisers' offices
August 7 10:00 am – 12:00 nn 2:00 pm – 4:00 pm	Consultation Session for BSc Year 2 and above students (Representatives from each Science major/minor will be available to advise students on course selection)	See page 102 of this handbook
	Consultation Session for BSc(ActuarSc) Year 2 and above students (Representatives from the Actuarial Science programme will be available to advise students on course selection)	
August 8 (9:00 am – 2:30 pm)	Suspension period of the online course selection system (Course add/drop is not allowed.) Students are highly recommended to select courses which require course based approval before the suspension period.	---
August 13 (by 4:00 pm)	Closing date for submission of: <ol style="list-style-type: none"> (a) Application Form for Taking Course Load Deviating from the Normal Load in a given semester, with written endorsement from the Chief Course Selection Adviser of the primary major/programme (if applicable); (b) Course Approval Form* (if applicable); (c) Application Form for Taking a Replacement Course (if applicable); and (d) Application Form for Exemption From Taking a Capstone Course in the Second (Science) Major (if applicable) 	Faculty Office
August 23 (10:00 am)	Checking of course selection status and ballot result (including CAES9820/CAES9821) on-line	HKU Portal – SIS

Useful Information to Chemistry Students for Course Selection

Refer to Document E

Your (Chemistry) Course Selection Advisors

Course Selection Advisors	Contact information
Dr. H Y Au-Yeung	Rm 503, CYM Chemistry Building Tel: 2219 4697 Email: hoyuay@hku.hk
Dr. A P L Tong	Rm 602, CYM Chemistry Building Tel: 3917 7918 Email: apltong@hku.hk
Dr. E C M Tse	Rm 406, Hui Oi Chow Science Building Tel: 3917 6076 Email: ecmtse@hku.hk
Dr. A M Y Yuen	Rm 407, Hui Oi Chow Science Building Tel: 3917 6077 Email: maiyan@hku.hk



CYM Building – Chong Yuet Ming Building

Executive Committee of Chemistry Society – Current Session (Carbon)



Chairman	Mr MAK King Laam, Marco
Internal Vice-Chairman	Mr WONG Ngai Chung, Anson
External Vice-Chairman	Mr HO Ho Ching, Hoby
General Secretary and Acting Academic Secretary	Mr SIU Tsz Ho, Brian
Financial Secretary and Acting Publication and Publicity Secretary	Mr CHEUNG Chun Hin, Gabriel
Publication and Publicity Secretary	Mr YIU Shun Hang, Owen

Some Chemistry Student Peer Advisors (SPAs)



CHAN Chi Ho Jay
(BSc Y4)



CHEUNG So Yee
Jasmine (BSc Y2)



HALIM Stephanie
(BSc Y2)



SIU Tsz Ho Brian
(BSc Y2)

Student Peer Advisers in 2019-20

- General roles
 - to **offer advice** in relation to academic studies to freshmen; and
 - to **facilitate** freshmen's **smooth transition** from secondary to university education
- Matching between **Student Peer Advisers (SPAs)** and freshmen starting from 2019-20
- You are highly encouraged to contact the following SPAs if you have any questions about your study (their contacts can be found at the Faculty's website)
 - **Mr CHAN Chi Ho (Jay) (BSc Year 4)**
 - **Miss CHEUNG So Yee (Jasmine) (BSc Year 2)**
 - Mr CHOW Sung In (Sunny) (BSc Year 3)
 - **Miss HALIM Stephanie (BSc Year 2)**
 - Miss LI Jiahui (Lily) (BSc Year 4)
 - Miss LUK Wing Laam (Carol) (BSc Year 2)
 - Mr SINGH Karanjit (BSc Year 2)
 - **Mr SIU Tsz Ho (Brian) (BSc Year 2)**
 - Mr WONG Kin Long (Chris) (BSc Year 3)



Small-group Discussion – Student Sharing on Course Selection & Planning Study Route

10:55am – 11:15am;
1:25pm – 1:45pm

