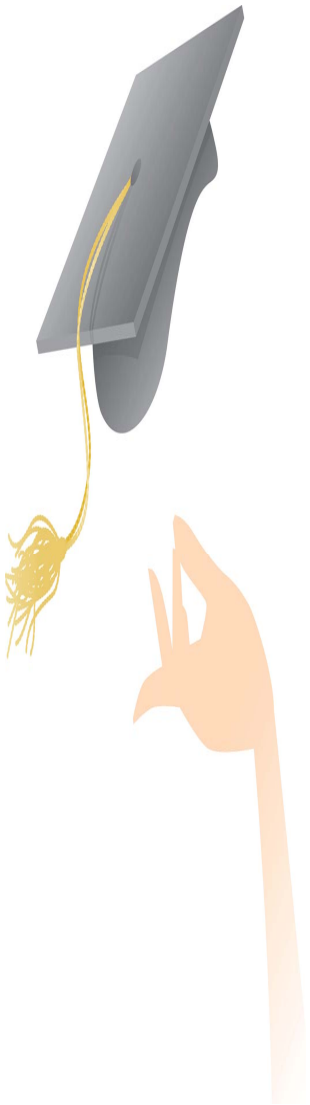

Curriculum Talk on Amended Chemistry Major

Nov 17, 2010

Department of Chemistry

Why is there a need to amend the Chemistry Major Curriculum?

(1) All universities in HK are in the process of transition from 3-year → 4-year undergraduate programmes

(New Senior Secondary Curriculum has been implemented since Sep 2009)

(2) To ensure smooth transition, the Senate has approved the partial implementation of the features of the new 4-year curriculum → **New 2010 Curriculum.**

(Common Core Courses are phasing in;

9-credit courses are phasing out, etc.)

New 3-Year Curriculum (2010) & New 4-Year Curriculum (2012)

2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
U3					
U2	U3				
U1	U2	U3			
	U1	U2	U3		
		U1	U2	U3	
		U1	U2	U3	U4

You are the first cohort of the New 3-year Curriculum.

New 3-year curriculum (2010/11 – 2012/13)

4-year curriculum (2012/13 – 2015/16)

Chemistry Major (2010-2011) – Amended *(subject to approval)*

Required courses (72 credits)

1. Introductory level courses (18 credits)
CHEM1002 Chemistry: principles and concepts 6
CHEM1003 Chemistry: the molecular world 6
CHEM1004 Chemistry: an experimental science I 6

2. Advanced level courses (48 credits)
CHEM2202 Chemical instrumentation 6
CHEM2303 Intermediate inorganic chemistry 6
CHEM2403 Intermediate organic chemistry 6
CHEM2504 Physical Chemistry I: Introduction to Quantum Chemistry 6
CHEM2510 Principles and applications of spectroscopic and analytical techniques 6

Plus 18 credits of advanced level Chemistry courses (CHEM2XXX or CHEM3XXX level) including at least 12 credits of the following courses from two different areas (note 1):
(1) CHEM3305 Advanced Inorganic Chemistry 6
(2) CHEM3406 Integrated Organic Synthesis 6 or CHEM3404 Advanced Organic Chemistry 6
(3) CHEM3507 Physical Chemistry II: Statistical Thermodynamics and Kinetic Theory 6

3. Experiential learning requirement (6 credits) *
Students must take at least one of the following forms of extra-ordinary learning experience to fulfill the experiential learning requirement:

- CHEM2111 Directed studies in chemistry 6
- CHEM3105 Chemistry project 12
- CHEM3988 Chemistry internship 6
- SCNC2005 Career development for science students (non-credit bearing)
- SCNC2988 Service learning internship (non-credit bearing)
- Exchange study via HKU Worldwide or Science Faculty/Department Level (1st sem/2nd sem/1 yr) (non-credit bearing)
- Any other activities determined by the Faculty to conform to the spirit o experiential learning experience (non-credit bearing)

* If the experiential learning requirement is fulfilled by non-credit bearing activities, students must take an additional 6-credit advanced level Chemistry course (CHEM2XXX or CHEM3XXX level).
Students are not required to take EL if this Science major is taken as a second major but a 6-credit advanced level course in the second major must be taken to fulfill the credit requirement.

Notes:
1 Students who wish to specialize in a certain area are recommended to choose courses from the following lists.
(a) For students who are interested in Analytical Chemistry: CHEM2102, CHEM2207, CHEM3203, CHEM3204.
(b) For students who are interested in Applied Chemistry: CHEM2103, CHEM3107, CHEM3110, CHEM3204.
(c) For students who are interested in Medicinal Chemistry: CHEM3403, CHEM3404, CHEM3405, CHEM3407.
(d) For students who are interested in Pure Chemistry: CHEM3106, CHEM3303, CHEM3403, CHEM3504/CHEM3513.

Main Changes in the Amended Chemistry Curriculum

OLD Version - Advanced Level Courses (48 credits)			
CHEM 2202	**Chemical Instrumentation**	**6 credits**	
CHEM 2302	**Intermediate Inorganic Chemistry**	**9 credits**	
CHEM 2402	**Intermediate Organic Chemistry**	**9 credits**	39 credits
CHEM 2503	**Intermediate Physical Chemistry**	**9 credits**	
CHEM 2510	**Principles & Applications of Spectroscopic & Analytical Techniques**	**6 credits**	
PLUS at least 9 credits of advanced chemistry courses of which 6 credits must be at CHEM3000 level.			

AMENDED Version - Advanced Level Courses (48 credits)			
CHEM 2202	**Chemical Instrumentation**	**6 credits**	
CHEM 2303	**Intermediate Inorganic Chemistry**	**6 credits**	
CHEM 2403	**Intermediate Organic Chemistry**	**6 credits**	30 credits
CHEM 2504	**Physical Chemistry I: Introduction to Quantum Chemistry**	**6 credits**	
CHEM 2510	**Principles & Applications of Spectroscopic & Analytical Techniques**	**6 credits**	
Plus 18 credits of advanced level Chemistry courses including at least 12 credits of the following courses from two different areas: (1) CHEM3305 Advanced Inorganic Chemistry (2) CHEM3406 Integrated Organic Synthesis or CHEM3404 Advanced Organic Chemistry (3) CHEM3507 Physical Chemistry II: Statistical Thermodynamics and Kinetic Theory			

List of Levels 2–3 Courses to be Cancelled/Launched/Amended during 2010/11 – 2012/13

(✓ = available; ✗ = unavailable; - = NIL or not applicable)

Course	Sem offered	Pre-requisite (Pass in)	Mutually exclusive with	Availability in 2010-2011	Availability in 2011-2012	Availability in 2012-2013
Existing Courses						
CHEM2202 Chemical Instrumentation (6) *(No change)*	1	CHEM1002 or (CHEM1004 & CHEM2510) or CHEM1007 or CHEM1009	-	✓	✓	✓
CHEM2302 Intermediate Inorganic Chemistry (9)	1	CHEM1003	CHEM2303	✓	✗	✗
CHEM2402 Intermediate Organic Chemistry (9)	2	CHEM1003, and CHEM2510 (passed in or already enrolled in this course)	CHEM2403	✓ (2010 cohort having passed CHEM1003 in sem 1 can take this)	✗	✗
CHEM2503 Intermediate Physical Chemistry (9)	1	CHEM1002	CHEM2504	✓	✗	✗
CHEM2509 Principles of Chemical Biology (6)	2	CHEM1003 or CHEM1401 or BIOC1001	CHEM3xxx Chemical Biology	✓	✓	✗
CHEM2510 Principles & Applications of Spectroscopic & Analytical Techniques (6)	2	Any CHEM1xxx	-	✓	✓	✓
CHEM3203 Analytical Chemistry (9)	0	CHEM2202 or CHEM2002	CHEM3206	✓	✓	✗
CHEM3303 Advanced Inorganic Chemistry (9)	0	CHEM2302, and CHEM3106 (passed in or already enrolled in this course)	CHEM3305	✓	✓	✗
CHEM3403 Integrated Organic Synthesis (9)	2	CHEM2402	CHEM3406	✓	✓ (2010 cohort* can take this)	✗
CHEM3405 Organic Chemistry of Life (6)	1	CHEM1401 or CHEM2402	CHEM3xxx Chemical Biology	✓	✓	✗
CHEM3404 Advanced Organic Chemistry (6) *(No change)*	1	CHEM2402 or CHEM2403	-	✓	✓	✓

List of Levels 2–3 Courses to be Cancelled/Launched/Amended during 2010/11 – 2012/13

(✓ = available; ✘ = unavailable; - = NIL or not applicable)

Course	Sem offered	Pre-requisite (Pass in)	Mutually exclusive with	Availability in 2010-2011	Availability in 2011-2012	Availability in 2012-2013
New Courses						
CHEM2303 Intermediate Inorganic Chemistry (6)	1	CHEM1003	CHEM2302	-	✓ (2010 cohort* can take this)	✓
CHEM2304 Bioinorganic Chemistry (6)	2	CHEM1002, CHEM1003, and CHEM2303	-	-	✓	✓
CHEM2403 Intermediate Organic Chemistry (6)	2	CHEM1003	CHEM2402	-	✓ (2010 cohort* without taking CHEM2402 before can take this)	✓
CHEM2504 Physical Chemistry I: Introduction to Quantum Chemistry (6)	2	CHEM1002	CHEM2503	-	✓ (2010 cohort* can take this)	✓
CHEM3206 Analytical Chemistry (6)	2	CHEM2202 or CHEM2207	CHEM3203	-	-	✓ (2010 cohort* can take this)
CHEM3305 Advanced Inorganic Chemistry (6)	1	CHEM2303, and CHEM3106 (passed in or already enrolled in this course)	CHEM3303	-	-	✓ (2010 cohort* can take this)
CHEM3406 Integrated Organic Synthesis (6)	1	CHEM2402 or CHEM2403	CHEM3403	-	-	✓ (2010 cohort* without taking CHEM3403 before)
CHEM3507 Physical Chemistry II: Statistical Thermodynamics and Kinetic Theory (6)	1	CHEM2504	-	-	-	✓ (2010 cohort* can take this)
CHEM3xxx Chemical Biology (6)	2	CHEM2402 or CHEM2403	CHEM2509, and CHEM3405	-	-	✓

With the amended 3-year chemistry curriculum,

1. **No** students admitted to 1st year in September 2010 should be able to take ***CHEM2302*** **(9-credit, S1) and** ***CHEM2503*** **(9-credit, S1)** normally because these two courses are to be replaced by ***CHEM2303*** **(6-credit, S1) and** ***CHEM2504*** **(6-credit, S2)** starting from 2011-2012.

2. **You have to plan if you will take**

   (i) *CHEM2402 Intermediate Organic Chemistry* (9-credit, last offer in 2010-2011 S2) in the coming semester, **OR**

   (ii)*CHEM2403 Intermediate Organic Chemistry* (6-credit, to be launched in 2011-2012 S2) in 2011-2012 S2.

With the amended 3-year chemistry curriculum,

3. If 2(i) is chosen, i.e. taking *CHEM2402* in coming semester (2010-2011 S2), you can choose to do:

   (a)* *CHEM3403 Integrated Organic Synthesis* (9-credit, last offer in 2011-2012 S2) in 2011-2012 S2

   (b)# *CHEM3405 Organic Chemistry of Life* (6-credit, last offer in 2011-2012 S1) in 2011-2012 S1

   (c)* *CHEM3406 Integrated Organic Synthesis* (6-credit, to be launched in 2012-2013 S1) in 2012-2013 S1

   (d) *CHEM3404 Advanced Organic Chemistry* (6-credit, no change) in 2011-2012 S1 or 2012-2013 S1

   (e)# *CHEM3xxx Chemical Biology* (6-credit, to be launched in 2012-2013 S2) in 2012-2013 S2 (note that this course is also exclusive to CHEM2509)

Courses marked with a pair of * or # are mutually exclusive to each other.

With the amended 3-year chemistry curriculum,

3. If 2(ii) is chosen, i.e. taking *CHEM2403* in 2011-2012 S2, you can choose to do:

   (a) *CHEM3406 Integrated Organic Synthesis* (6-credit, to be launched in 2012-2013 S1) in 2012-2013 S1

   (d) *CHEM3404 Advanced Organic Chemistry* (6-credit, no change) in 2012-2013 S1

   (c) *CHEM3xxx Chemical Biology* (6-credit, to be launched in 2012-2013 S2) in 2012-2013 S2 (note that this course is exclusive to CHEM2509)