Date: 23 Nov 26 Updated by: Ms Carrie Wong

[Chemistry Major- Course Structure & Curriculum]

Graduation Requirements

To be awarded a BSc (Hons) with a primary major in Chemistry for **Cohorts AY2021/22 to AY2025/26**, candidates must satisfy the following:

LEVEL	BSc (HONS) IN CHEMISTRY MINIMUM REQUIREMENTS	CUMULATIVE UNITS
1000	CM1102 Chemistry – The Central Science	4
2000	CM2112 Chemistry of Elements CM2122 Organic Chemistry in Life and Medicine CM2133 Foundations of Physical Chemistry CM2143 Basic Toolkit of Analytical Chemistry	16
3000	CM3111 Inorganic and Organometallic Chemistry CM3121 Synthesis of Natural Products and Pharmaceuticals CM3131 Applications of Physical Chemistry CM3141 Instrumental Techniques in Analytical Chemistry CM3191 Chemical Synthesis Experiments CM3192 Physical and Analytical Chemistry	24
4000	Any four (4) CM courses at Level 3000 or 4000 excluding CM3288, CM3288x, CM3289, CM3289x, CM4288 and any UPIP courses	16
	Total:	60

To be awarded a BSc (Hons) with a primary major in Chemistry for **Cohorts AY2026/27 onwards**, candidates must satisfy the following:

LEVEL	BSc (HONS) IN CHEMISTRY MINIMUM REQUIREMENTS	CUMULATIVE UNITS
1000	CM1102 Chemistry – The Central Science	4
2000	CM2112 Chemistry of Elements CM2122 Organic Chemistry in Life and Medicine CM2133 Foundations of Physical Chemistry CM2143 Basic Toolkit of Analytical Chemistry	16
3000	CM3111 Inorganic and Organometallic Chemistry CM3121 Synthesis of Natural Products and Pharmaceuticals CM3131 Applications of Physical Chemistry CM3141 Instrumental Techniques in Analytical Chemistry CM3191 Chemical Synthesis Experiments CM3192 Physical and Analytical Chemistry CM3255 Smart Molecules with AI and Cheminformatics	28
4000	Any three (3) CM courses at Level 3000 or 4000 excluding CM3288, CM3288x, CM3289, CM3289x, CM4288 and any UPIP courses	12
	Total:	60

To graduate with a major in Chemistry for Cohorts AY2021/22 and AY2022/23, student must have read and passed at least one of the following:
(1) CM2288/CM2288R
(2) CM3288/CM3288R/CM3288N/CM3288NR/CM3288S/CM3288SR
(3) CM4288*
(4) Any UPIP course**
(5) Any NOC Internship course
**Applicable only to students reading the Specialisation in Chemical Research*
***Students who have passed a FASSIP course before switching to a primary major in Chemistry would be deemed to have fulfilled this requirement.*

To graduate with a major in Chemistry for Cohorts AY2023/24 onwards, student must have read and passed at least one of the following:
(1) CM2288/CM2288R
(2) CM3288/CM3288R/CM3288M/CM3288MR/CM3288N/CM3288NR/CM3288S/CM3288SR
(3) CM4288*
(4) Any UPIP course**
(5) Any NOC Internship course
**Applicable only to students reading the Specialisation in Chemical Research*
***Students who have passed a FASSIP course before switching to a primary major in Chemistry would be deemed to have fulfilled this requirement.*

Specialisation in Chemical Research

To be awarded a Specialisation in Chemical Research, students would need to complete 20 units of the following:

Requirements	Course	units
Level 3000	CM3288 Advanced UROPS in Chemistry I or CM3288N Advanced UROPS in Nanochemistry I or CM3288R Advanced UROPS in Chemistry I (REx) or CM3288NR Advanced UROPS in Nanochemistry I (REx) or CM3288S Advanced UROPS in Sustainable Chemistry I or CM3288SR Advanced UROPS in Sustainable Chemistry I (REx) or CM3288M Advanced UROPS in Medicinal Chemistry I or CM3288MR Advanced UROPS in Medicinal Chemistry I (REx)	4
Level 4000	CM4288 Final Year Research Project in Chemistry	12
Level 3000 / 4000	Any Level 3000 or 4000 CM coded course (excluding CM3289,CM3289x and UPIP courses)	4

Specialisation in Sustainable Chemistry

To be awarded a Specialisation in Sustainable Chemistry, students would need to pass five courses from the following:

Requirements	Course	units
Level 3000 / 4000	CM3254 Sustainable Polymers and Biomass CM3261 Environmental Chemistry CM3267 Computational Thinking and Programming in Chemistry CM3288S Advanced UROPS in Sustainable Chemistry I/CM3288SR Advanced UROPS in Sustainable Chemistry I (REx) CM4228 Catalysis for Sustainable Chemical Synthesis CM4254 Semiconductor Devices for Sustainability CM4269 Sustainable & Green Chemistry CM4282 Energy Resources	20

Specialisation in Medicinal Chemistry

To be awarded a Specialisation in Medicinal Chemistry, students would need to pass five courses from the following:

Requirements	Course	units
Level 3000 / 4000	CM3221 Organic Synthesis: The Disconnection Approach CM3225 Biomolecules CM3288M Advanced UROPS in Medicinal Chemistry I/CM3288MR Advanced UROPS in Medicinal Chemistry I (REx) CM4215 Bioinorganic Chemistry CM4227 Chemical Biology CM4236 Spectroscopy & Imaging in Biophysical Chemistry CM4271 Medicinal Chemistry CM4274 The Art and Methodology in Total Synthesis LSM3211 Fundamental Pharmacology PHS3102 Principles of Drug Design and Development	20