

Study Plan for 2013/2014 intake

(Department of Chemistry, Faculty of Science)

Semester 1 (24 MC)	Semester 2 (20-24 MC)	Semester 3 (20 MC)	Semester 4 (20 MC)
SSxxxx Singapore Studies GEMxxxx (Unrestricted) - 2 * CM1191 Experiments in Chemistry I CM1111 Basic Inorganic Chemistry CM1131 Basic Physical Chemistry LSM1301 General Biology (if no A-level Biology) MA1421 Basic Applied Mathematics for Sciences	GEMxxxx [#] (Unrestricted) – GEMxxxx (Unrestricted) - 1 CM1121 Organic Chemistry 1 LSM1101 Biochemistry of Biomolecules LSM1102 Molecular Genetics CN1111 Chemical Engineering Principles (4MC)	CM2101 Principles of Spectroscopy CM2192 Experiments in Chemistry II CM2142 Analytical Chemistry LSM2101 Metabolism & Regulation CN2121 Chemical Engineering Thermodynamics	CM2191 Experiments in Chemistry III CM2121 Organic Chemistry CM2111 Inorganic Chemistry LSM2102 Molecular Biology LSM2103 Cell Biology
Semester 5 (22 MC)	Semester 6 (20 MC)	Semester 7 (24 MC)	Semester 8 (16 MC)
CM3221 Organic Synthesis & Spectroscopy CM3292 [@] Analytical & Physical Lab CM3xxx** (Elective) – 2 LSM2201A/ Experimental Biochemistry (6 MC)/ or LSM2202A [@] Experimental Molecular and Cell Biology (6 MC) LSM3231 Protein Structure & Function	CM3291 [@] Inorganic & Organic Lab. CM3222 Organic Reaction Mechanisms CM3xxx** (Elective) - 1 CN2116 Chemical Kinetics & Reactor Design LSM3211 Fundamental Pharmacology	CM4199A ⁺ Honours Project in Chemistry (16 MC) LSM4211 Toxicology CM4222 Advanced Organic Synthesis & Spectroscopy	CM4271 Medicinal Chemistry CM42xx LSM4221 Drug Discovery & Clinical Trials PR5212 Advanced Topics in Medicinal Chemistry

* Need to be taken if not taking LSM1301

@ Option to read module in Special term after Semester 4

Not necessary if done 2 GEMs in 1st Semester

+ 1 year honours project

** CM326x prefix not allowed but student can use 4 MC of CM4xxx prefix

Total MC = 166 (if student has “A” Level Biology)

Total MC = 170 (if student has no “A” Level Biology)

(instead of the usual 160 for usual B.Sc.(Hons.))

Annex A

Study Plan for 2013/2014 intake

(Department of Chemical & Biomolecular Engineering, Faculty of Engineering)

Semester 1 (20 - 24 MC) SSxxxx Singapore Studies (4) OR CN1111 Chemical Engineering Principles (4) ES1531 Critical Thinking & Writing (4) ES1102 English IT1005 Intro to Programming Matlab (4) CM1501 Organic Chemistry for Engineers (4) MA1505 Mathematics I (4) LSM1301 General Biology (if no A-level Biology) (4)	Semester 2 (24 MC) CN1111 Chemical Engineering Principles (4) OR SSxxxx Singapore Studies (4) CM2121 Organic Chemistry(4) LSM1101 Biochemistry of Biomolecules (4) MA1506 Mathematics II (4) MLE1101 Introductory Materials Science & Engrg (4) ES2331 Communicating Engineering ¹ (4) - UEM	Semester 3 (20 MC) CN2121 Chemical Engineering Thermodynamics (4) CN2122 Fluid Mechanics (4) LSM1102 Molecular Genetics (4) LSM2101 Metabolism & Regulation (4) LSM2201A Experimental Biochemistry (4) OR LSM2202A Experimental Molecular and Cell Biology (4)	Semester 4 (21 MC) CN2108 Chemical Engineering Lab I (2) CN2116 Chemical Kinetics & Reactor Design (4) CN2125 Heat & Mass Transfer (4) CN3124 Fluid-Solid Systems (3) LSM2103 Cell Biology (4) GEM – 1 (4)
Semester 5 (19 MC) CN3108 Chemical Engineering Lab II (4) CN3121 Process Dynamics & Control (4) CN3132 Separation Processes(4) CN3421 Process Modeling & Numerical Simulation (4) CN3135 Process Safety, Health and Environment (3)	Semester 6 (20 MC) GEM – 2 (4) EG2401 Engineering Professionalism (3) HR2002 Human Capital in Organizations (3) CN3109 Chemical Engineering Lab III (2) CM2142 Analytical Chemistry 1 (4) LSM2102 Molecular Biology(4)	Semester 7 (19 MC) CN4118R B.Eng Dissertation (related to Life/Chemical Sciences) (8) CN4122 Process Synthesis and Simulation (3) CM3221 Organic Synthesis & Spectroscopy (4) CMx2xx/ (Elective) – 1 [#] (4) LSMx2xx	Semester 8 (17 MC) CN4123 Design Project (7) CN4118R B.Eng Dissertation (continued) (2) CMx2xx/ (Elective) – 2 [#] (4) LSMx2xx CMx2xx/ (Elective) – 3 [#] (4) LSMx2xx

¹All students admitted from AY2012/2013 onwards are required to read an additional requirement, ES2331 *Communicating Engineering*, on a graded basis as Breadth OR as Unrestricted Elective.

Electives

CM4221	Chemistry of Natural Products (4)	LSM3231	Protein Structure & Function (4)
LSM4211	Toxicology (4)	LSM3224	Molecular Basis of Human Diseases (4)
LSM3232	Microbiology (4)	LSM3211	Fundamental Pharmacology (4)
LSM4221	Drug Discovery & Clinical Trials (4)	CM4222	Advanced Organic Synthesis & Spectroscopy (4)

Students may have to rearrange the modules to meet time-tabling constraints

TOTAL MC = 160 - 164