NUS LIFE SCIENCES UNDERGRADUATE PROGRAMME
BSC (HONS)/BSC DEGREE IN LIFE SCIENCES  (For Cohort AY2016/17)

Along with General Education, Faculty Requirements and Unrestricted Elective Modules, to be awarded a BSc (Hons) or BSc in Life Sciences, candidates must satisfy the following:

<table>
<thead>
<tr>
<th>MODULE LEVEL</th>
<th>PRIMARY MAJOR IN LIFE SCIENCES REQUIREMENTS (FOR MATRICULATION COHORT AY16/17)</th>
<th>CUMULATIVE MAJOR MC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1000 (20 MC)</td>
<td>Pass LSM1102, LSM1105, LSM1106, CM1401* and ST1232*. (If a precluding module to CM1401 (i.e. CM1121 or CM1402 or CM1501) is passed, the precluding module is accepted to be fulfilling the Major in Life Sciences in lieu of CM1401.)</td>
<td>20</td>
</tr>
<tr>
<td>Level 2000 (16 MC)</td>
<td>Pass LSM2191 and three LSM22xx elective modules (except LSM2288 and LSM2289).</td>
<td>36</td>
</tr>
<tr>
<td>Level 3000 (16 MC)</td>
<td>Pass four LSM32xx elective modules (except LSM3289), of which up to two (up to 8 MC) may be LSM42xx (except LSM4299) and/or LSM-recognised elective modules.</td>
<td>52</td>
</tr>
</tbody>
</table>
| Level 4000 (32 MC) [For BSc (Hons)] | Pass 32 MC of LSM4xxx, of which may include either LSM4199 or LSM4299 but not both:  

**Honours Research Project Option**  
Pass LSM4199 Honours Project in Life Sciences, AND pass another four LSM42xx elective modules.  

**Optional: To fulfill a Specialisation**  
Complete 24MC including LSM4199 Honours Project in Life Sciences AND two LSM42xx elective modules from the corresponding list for the chosen specialisation.  
(Refer to Page 3.)  

**Applied Internship Project Option**  
Pass LSM4299 Applied Project in Life Sciences, AND pass another four LSM42xx elective modules.  

**Coursework Taught Modules Option**  
Pass eight LSM42xx elective modules. | 84 |

<table>
<thead>
<tr>
<th></th>
<th>BSc</th>
<th>BSc (Hons)</th>
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</thead>
<tbody>
<tr>
<td>General Education</td>
<td>20 MC</td>
<td>20 MC</td>
</tr>
<tr>
<td>Faculty Requirements</td>
<td>4 MC</td>
<td>8 MC</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>52 MC</td>
<td>84 MC</td>
</tr>
<tr>
<td>Unrestricted Elective Modules</td>
<td>44 MC</td>
<td>48 MC</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>120 MC</strong></td>
<td><strong>160 MC</strong></td>
</tr>
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</table>

- Refer to Page 3 for the list of LSM-prefixed elective modules and LSM-recognised elective modules.
- Refer to Page 4 for typical schedule of completion (i.e. study plan) of BSc (Hons) degree in Life Sciences.

**To qualify for Honours year**, students must fulfil the Life Sciences Major Requirements at BSc standard (i.e. Levels 1000, 2000 and 3000 Major Requirements), and obtained a minimum overall CAP of 3.20 on completion of 100MC (Modular Credits) or more.

The number of MC earned from Level 1000 modules for graduation requirements is capped at 60.
Faculty Requirements for Life Sciences Major:
Please refer to the following for details and subject groupings:
http://www.science.nus.edu.sg/undergraduate-studies/ugreq/curriculum-structure?id=212

CM1401 and ST1232 satisfy 8MC of the Faculty Requirements. **DO NOT read ST1131 or ST2334.**

Modules to fulfil Faculty Requirements:
- Module 1: CM1401 [4 MC; recognised as Major Requirements]
- Module 2: ST1232 [4 MC; recognised as Major Requirements]
- Module 3: SP1541 Exploring Science Communication through Popular Science (if precluded from taking SP1541, please read 1 module from Physical Sciences OR Computing Sciences OR Multidisciplinary & Interdisciplinary Sciences subject group) [4 MC]
- Module 4 [for BSc (Hons)]: 1 module from any subject group except LSM-prefix modules [4 MC]
## List of LSM Elective Modules. All are 4MC each except otherwise if indicated.

### LSM2xx Elective Modules
- **LSM2211** Metabolism and Regulation
- **LSM2212** Human Anatomy
- **LSM2231** General Physiology
- **LSM2232** Genes, Genomes and Biomedical Implications
- **LSM2233** Physical Concepts in Biology
- **LSM2241** Introductory Bioinformatics
- **LSM2251** Ecology and Environment
- **LSM2252** Biodiversity
- **LSM2253** Applied Data Analysis in Ecology and Evolution
- **LSM2254** Fundamentals of Plant Biology
- **LSM2291** Fundamental Techniques in Microbiology

### LSM3xx Elective Modules
- **LSM3201** Research and Communication in Life Sciences
- **LSM3211** Fundamental Pharmacology
- **LSM3212** Human Physiology: Cardiopulmonary System
- **LSM3214** Human Physiology – Hormones and Health
- **LSM3215** Neuronal Signaling and Memory Mechanisms
- **LSM3216** Neuronal Development and Diseases
- **LSM3217** Human Ageing
- **LSM3218** Cardiopulmonary Pharmacology
- **LSM3219** Neuropharmacology
- **LSM3221** Human Neuroanatomy
- **LSM3222** Immunology
- **LSM3223** Molecular Basis of Human Diseases
- **LSM3224** Medical Mycology and Drug Discovery
- **LSM3225** Human Microbiology
- **LSM3226** Medical Microbiology
- **LSM3227** Protein Structure and Function
- **LSM3228** Microbiology
- **LSM3229** Developmental Biology
- **LSM3230** Biological Imaging of Growth and Form
- **LSM3231** Epigenetics in Human Health and Diseases
- **LSM3241** Genomic Data Analysis
- **LSM3242** Translational Microbiology
- **LSM3243** Molecular Biophysics
- **LSM3244** Molecular Biotechnology
- **LSM3245** RNA Biology and Technology
- **LSM3246** Synthetic Biology
- **LSM3247** Practical Synthetic Biology
- **LSM3252** Evolution and Comparative Genomics
- **LSM3254** Ecology of Aquatic Environments
- **LSM3255** Ecology of Terrestrial Environments
- **LSM3256** Tropical Horticulture
- **LSM3258** Comparative Botany
- **LSM3259** Fungal Biology
- **LSM3262** Environmental Animal Physiology
- **LSM3265** Entomology
- **LSM3266** Avian Biology and Evolution
- **LSM3267** Behavioural Biology
- **LSM3272** Global Change Biology
- **LSM3273** Ecology, Conservation and Management of Sri Lankan Ecosystems
- **LSM3288** Advanced UROPS in Life Sciences I

### LSM4xx Elective Modules
- **LSM4199** Honours Project in Life Sciences (16MC)
- **LSM4201** Topics in Biomedical Science
- **LSM4202** Toxicology
- **LSM4213** Systems Neurobiology
- **LSM4214** Cancer Pharmacology
- **LSM4215** Extreme Physiology
- **LSM4216** Molecular Nutrition and Metabolic Biology
- **LSM4217** Functional Ageing
- **LSM4221** Drug Discovery and Clinical Trials
- **LSM4222** Advanced Immunology
- **LSM4223** Advances in Antimicrobial Strategies
- **LSM4225** Genetic Medicine in the Post-Genomic Era
- **LSM4226** Infection and Immunity
- **LSM4227** Stem Cell Biology
- **LSM4228** Experimental Models for Human Disease and Therapy
- **LSM4229** Therapeutic and diagnostic agents from animal toxins
- **LSM4252** Reproductive Biology
- **LSM4199** Honours Project in Life Sciences (16MC)
- **LSM4201** Principles of Taxonomy and Systematics
- **LSM4205** Methods in Mathematical Biology
- **LSM4206** Evolution of Development
- **LSM4207** Marine Biology
- **LSM4208** Tropical Conservation Biology
- **LSM4209** Field Studies in Biodiversity
- **LSM4210** Urban Ecology
- **LSM4211** Animal Communications & Sensory Ecology
- **LSM4299** Applied Project in Life Sciences (16MC)

### Other LSM-Prefixed Modules
- **CM3221** Organic Synthesis: The Disconnection Approach
- **CM3222** Organic Reaction Mechanisms
- **CM3225** Biomolecules
- **CM3251** Nanochemistry
- **CM3261** Environmental Chemistry
- **CM4277** Chemical Biology
- **PR3116** Concepts in Pharmacokinetics and Biopharmaceutics
- **PR4205** Biorganic Principles of Medicinal Chemistry
- **ZB4171** Advanced Topics in Bioinformatics

### Faculty of Science

### Faculty of Engineer

### Faculty of Arts and Social Sciences

### Saw Swee Hock School of Public Health

### School of Business
**NUS LIFE SCIENCES UNDERGRADUATE PROGRAMME**

**BSC (HONS)/BSC DEGREE IN LIFE SCIENCES  (For Cohort AY2016/17)**

Schedule for Completion of BSc (Hons) in Life Sciences – Matriculation Cohort AY2016/2017

Typical Study Plan for students reading Life Sciences as Primary Major. Numbers in [ ] are Modular Credits (MC).

<table>
<thead>
<tr>
<th>Semester</th>
<th>Life Sciences Major Modules</th>
<th>Other Graduation Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>YEAR 1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st Semester</td>
<td>To be pre-allocated in either semester Group 1:</td>
<td>☐ GER1000 – Quantitative Reasoning [4] (pre-allocated)</td>
</tr>
<tr>
<td>(Sem 2)</td>
<td>□ LSM1105 Evolutionary Biology [4]</td>
<td></td>
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<tr>
<td></td>
<td>□ ST1232 Statistics for Life Sciences [4]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To be pre-allocated in Semester 2:</td>
<td>☐ CM1401 Chemistry for Life Sciences [4]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ GER1000 – Quantitative Reasoning [4] (pre-allocated)</td>
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<tr>
<td></td>
<td></td>
<td>☐ GEH1XXX – Human Cultures [4] (to bid)</td>
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<tr>
<td></td>
<td></td>
<td>☐ GES1XXX – Singapore Studies [4] (to bid)</td>
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<tr>
<td><strong>YEAR 2</strong></td>
<td></td>
<td>☐ GET1XXX – Thinking and Expression [4] (to bid)</td>
</tr>
<tr>
<td>3rd Semester</td>
<td>To be pre-allocated in either semester:</td>
<td>☐ GEQ1000 – Asking Questions [4] (pre-allocated)</td>
</tr>
<tr>
<td>(Sem 1)</td>
<td>□ LSM2191 Laboratory Techniques in Life Sciences [4]</td>
<td></td>
</tr>
<tr>
<td>&amp; 4th Semester</td>
<td>☐ Pass 3 LSM22xx (except LSM2288/9) [3x4=12]</td>
<td></td>
</tr>
<tr>
<td>(Sem 2)</td>
<td>☐ Pass 3 LSM22xx (except LSM2288/9)</td>
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</tr>
<tr>
<td></td>
<td>☐ CM1401 Chemistry for Life Sciences [4]</td>
<td></td>
</tr>
<tr>
<td><strong>YEAR 3</strong></td>
<td></td>
<td>☐ GET1XXX – Thinking and Expression [4] (to bid)</td>
</tr>
<tr>
<td>5th Semester</td>
<td>☐ Pass 2 LSM32xx (except LSM3289) [2x4=8]</td>
<td>☐ SP1541 Exploring Science Communication through Popular Science (if precluded please read 1 module from Physical OR Computing OR Multidisciplinary Sciences subject group) [4]</td>
</tr>
<tr>
<td>(Sem 1)</td>
<td>☐ Pass 2 LSM32xx/LSM42xx/LSM-recognised elective modules (except LSM3289 and LSM4299) [2x4=8]</td>
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</tr>
<tr>
<td>&amp; 6th Semester</td>
<td>☐ Pass 2 LSM32xx/LSM42xx/LSM-recognised elective modules (except LSM3289 and LSM4299) [2x4=8]</td>
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<tr>
<td>(Sem 2)</td>
<td>☐ 1 Science regular module except LSM-prefixed module [4]</td>
<td></td>
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<tr>
<td><strong>YEAR 4</strong></td>
<td></td>
<td>☐ 1 Science regular module except LSM-prefixed module [4]</td>
</tr>
<tr>
<td>7th Semester</td>
<td>☐ Pass 32MC of LSM4xxx, of which may include either LSM4199 or LSM4299 but not both.</td>
<td>☐ Unrestricted Elective Modules (UEM):</td>
</tr>
<tr>
<td>(Sem 1)</td>
<td>☐ Pass 32MC of LSM4xxx, of which may include either LSM4199 or LSM4299 but not both.</td>
<td>☐ 48 MC or typically 12 modules</td>
</tr>
<tr>
<td>&amp; 8th Semester</td>
<td>☐ Pass 32MC of LSM4xxx, of which may include either LSM4199 or LSM4299 but not both.</td>
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</tr>
<tr>
<td>(Sem 2)</td>
<td>☐ Pass 32MC of LSM4xxx, of which may include either LSM4199 or LSM4299 but not both.</td>
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<tr>
<td></td>
<td><strong>To fulfil a specialisation, pass 24MC including LSM4199 AND two LSM42xx elective modules from the corresponding list for the chosen specialisation.</strong></td>
<td>Unrestricted Elective Modules (UEM):</td>
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<td></td>
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<td>☐ Unrestricted Elective Modules (UEM):</td>
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**Note:** The number of MC earned from Level 1000 modules for graduation requirements is capped at 60 (typically 15 modules).