

## NUS LIFE SCIENCES UNDERGRADUATE PROGRAMME MAJOR IN LIFE SCIENCES

### Schedule for Completion of BSc (Hons) in Life Sciences – Cohort AY2018/2019

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

	Semester	Life Sciences Major	Other Graduation Requirements
YEAR 1	1 <sup>st</sup> Semester (Sem 1) & 2 <sup>nd</sup> Semester (Sem 2)	<input type="checkbox"/> LSM1102 Molecular Genetics [4] <input type="checkbox"/> LSM1106 Molecular Cell Biology [4] <input type="checkbox"/> LSM1105 Evolutionary Biology [4] <input type="checkbox"/> ST1232 Statistics for Life Sciences [4] <input type="checkbox"/> CM1401 Chemistry for Life Sciences [4]	<p><b>General Education:</b></p> <input type="checkbox"/> GER1000 – Quantitative Reasoning [4] <input type="checkbox"/> GEH1XXX – Human Cultures [4] <input type="checkbox"/> GES1XXX – Singapore Studies [4] <input type="checkbox"/> GET1XXX – Thinking and Expression [4] <input type="checkbox"/> GEQ1000 – Asking Questions [4]
	YEAR 2	3 <sup>rd</sup> Semester (Sem 1) & 4 <sup>th</sup> Semester (Sem 2) <input type="checkbox"/> LSM2191 Laboratory Techniques in Life Sciences [4] <input type="checkbox"/> <b>Pass 3 LSM22xx</b> (except LSM2288/9) [3x4=12]	
YEAR 3	5 <sup>th</sup> Semester (Sem 1) & 6 <sup>th</sup> Semester (Sem 2) <input type="checkbox"/> <b>Pass 2 LSM32xx</b> (except LSM3289) [2x4=8] <input type="checkbox"/> <b>Pass 2 LSM32xx/LSM42xx/LSM-recognised elective modules</b> (except LSM3289 and LSM4299) [2x4=8]		
YEAR 4	7 <sup>th</sup> Semester (Sem 1) & 8 <sup>th</sup> Semester (Sem 2) <input type="checkbox"/> <b>Pass 32 MC of LSM4xxx</b> , of which may include either LSM4199 or LSM4299 but not both. <p><b>{3 options to fulfil the Honours Year!}</b></p> <p><b>Honours Research Project Option</b> Pass LSM4199 Honours Project in Life Sciences, AND pass another <b>four</b> LSM42xx elective modules.</p> <p><b>Applied Internship Project Option</b> Pass LSM4299 Applied Project in Life Sciences, AND pass another <b>four</b> LSM42xx elective modules.</p> <p><b>Coursework Taught Modules Option</b> Pass <b>eight</b> LSM42xx elective modules.</p> <p><b>To fulfil a specialisation, pass 24 MC of LSM4xxx from the corresponding list for the chosen specialisation.</b></p>	<p><b>Faculty Requirements:</b></p> <input type="checkbox"/> <b>Either CS1010 (or a variant) or COS2000 for Computational Thinking</b> [4] <input type="checkbox"/> <b>SP1541 Exploring Science Communication through Popular Science</b> (if precluded, please read 1 module from any Science subject group except LSM-prefixed modules) [4]	

**Unrestricted Elective Modules (UEM):**  
- 48 MC or typically 12 modules  
**{Use this MC space to pursue a Minor, Second Major, Study Abroad Programme, NOC Programme, or expand to a Double Degree Programme!}**

<input type="checkbox"/> _____	<input type="checkbox"/> _____
<input type="checkbox"/> _____	<input type="checkbox"/> _____
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**Typical workload for one semester is 20 MC. Read modules on top of the Major modules secured to fulfil other graduation requirements.**

Notes:

- The number of MC earned from Level 1000 modules for graduation requirements is capped at 60 (typically 15 modules).
- A Minor typically makes up of 24MC (i.e. 6 modules).
- A Second Major typically makes up of 48MC (i.e. 12 modules).
- Double-count up to 8MC (i.e. 2 modules) between a Major and a Minor, or up to 16MC (i.e. 4 modules) between a Major and a Second Major.

For more information:

- Visit NUS Life Sciences [lifesciences.nus.edu.sg](http://lifesciences.nus.edu.sg)
- Write to Life Sciences Enquiry [dbsbox2@nus.edu.sg](mailto:dbsbox2@nus.edu.sg)

## List of Life Sciences Major (LSM) Elective Modules

All are 4 MC each except otherwise indicated.

<p><b>LSM22xx Elective Modules</b></p> <p>LSM2211 Metabolism and Regulation            LSM2212 Human Anatomy            LSM2231 General Physiology            LSM2232 Genes, Genomes and Biomedical Implications            LSM2233 Cell Biology            LSM2234 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</p>	<p><b>LSM32xx Elective Modules</b></p> <p>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            LSM3222 Human Neuroanatomy            LSM3223 Immunology            LSM3224 Molecular Basis of Human Diseases            LSM3225 Molecular Microbiology in Human Diseases            LSM3226 Medical Mycology and Drug Discovery            LSM3231 Protein Structure and Function            LSM3232 Microbiology            LSM3233 Developmental Biology            LSM3234 Biological Imaging of Growth and Form            LSM3235 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            LSM3288 Advanced UROPS in Life Sciences I</p>	<p><b>LSM4xxx Elective Modules (Biomedical Science)</b></p> <p>LSM4199 Honours Project in Life Sciences (16MC)            LSM4210 Topics in Biomedical Science            LSM4211 Toxicology            LSM4213 Systems Neurobiology            LSM4214 Cancer Pharmacology            LSM4215 Extreme Physiology            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</p>	<p><b>LSM4xxx Elective Modules (Molecular and Cell Biology)</b></p> <p>LSM4199 Honours Project in Life Sciences (16MC)            LSM4231 Structural Biology            LSM4232 Advanced Cell Biology            LSM4234 Mechanobiology            LSM4235 Nuclear Mechanics and Genome Regulation            LSM4241 Functional Genomics            LSM4242 Protein Engineering            LSM4243 Tumour Biology            LSM4244 Oncogenes and Signal Transduction            LSM4245 Advanced Epigenetics and Chromatin Biology            LSM4251 Plant Growth and Development</p>	<p><b>LSM4xxx Elective Modules (Environmental Biology)</b></p> <p>LSM4199 Honours Project in Life Sciences (16MC)            LSM4254 Principles of Taxonomy and Systematics            LSM4255 Methods in Mathematical Biology            LSM4256 Evolution of Development            LSM4257 Aquatic Vertebrate Diversity            LSM4261 Marine Biology            LSM4262 Tropical Conservation Biology            LSM4263 Field Studies in Biodiversity            LSM4264 Freshwater Biology            LSM4265 Urban Ecology            LSM4267 Animal Communications &amp; Sensory Ecology</p>	<p><b>LSM4xxx Elective Modules (Not for any specialisation)</b></p> <p>LSM4299 Applied Project in Life Sciences (16MC)</p>
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**Modules in red – Biomedical Science focus**

**Modules in blue – Molecular and Cell Biology focus**

**Modules in green – Environmental Biology focus**