

DEPARTMENT OF BIOLOGICAL SCIENCES

SECOND MAJOR IN LIFE SCIENCES

1. Programme Requirements

To be awarded a Second Major in Life Sciences, the following requirements are to be fulfilled.

MODULE LEVEL	SECOND MAJOR IN LIFE SCIENCES REQUIREMENTS (FOR MATRICULATION COHORTS AY16/17 ONWARDS)	CUMULATIVE MAJOR MC
Level 1000 (16 MC)	Pass <ul style="list-style-type: none"> - LSM1102 Molecular Genetics - LSM1105 Evolutionary Biology - LSM1106 Molecular Cell Biology - CM1401 Chemistry for Life Sciences* OR ST1232 Statistics for Life Sciences * If a precluding module to CM1401 (i.e. CM1121 or CM1402 or CM1501) is passed, the precluding module is accepted to be fulfilling the Second Major in Life Sciences in lieu of CM1401.	16
Level 2000 (16 MC)	Pass <ul style="list-style-type: none"> - LSM2191 Laboratory Techniques in Life Sciences - Three LSM22xx modules (except LSM2288 and LSM2289) 	32
Level 3000 (16 MC)	Pass Four LSM32xx modules (except LSM3289), of which up to two (up to 8 MC) may be LSM42xx (except LSM4299) and/or LSM-recognised elective modules.	48

This Second Major is not awarded with the Primary Major in Life Sciences or Minor in Life Sciences.

2. Application

This is an unrestricted Second Major. Please refer to the Academic Plan Application/Declaration (APAD) [website](#) for more details on making a declaration to read it at the start of a semester. It is strongly advised to complete their Academic Plan Declaration 24 hours before participating in the ModReg exercise.

The declaration to join the Second Major should be made by the end of the fifth semester of the undergraduate candidature.

3. Enquiry

Please contact Life Sciences Enquiry dbsbox2@nus.edu.sg.

List of LSM Elective Modules. All are 4MC each except otherwise if indicated.

<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><u>LSM22xx Elective Modules</u></p>	<p>LSM4210 Topics in Biomedical Science LSM4211 Toxicology LSM4213 Systems Neurobiology LSM4214 Cancer Pharmacology LSM4215 Extreme Physiology LSM4216 Molecular Nutrition and Metabolic Biology LSM4217 Functional Ageing LSM4218 Biotechnology and Biotherapeutics 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><u>LSM4xxx Elective Modules (Biomedical Science)</u></p>
<p>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 LSM3227 General Virology 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 LSM3273 Ecology, Conservation and Management of Sri Lankan Ecosystems LSM3274 Eco-Biodiversity Field Techniques in Taiwan & Singapore LSM3288 Advanced UROPS in Life Sciences I</p>	<p><u>LSM32xx Elective Modules</u></p>	<p>LSM4231 Structural Biology LSM4232 Advanced Cell Biology LSM4234 Mechanobiology LSM4241 Functional Genomics LSM4242 Protein Engineering LSM4243 Tumour Biology LSM4245 Advanced Epigenetics and Chromatin Biology LSM4251 Plant Growth and Development</p>	<p><u>LSM4xxx Elective Modules (Molecular and Cell Biology)</u></p>
		<p>LSM4254 Principles of Taxonomy and Systematics LSM4255 Methods in Mathematical Biology LSM4256 Evolution of Development LSM4257 Aquatic Vertebrate Diversity LSM4259 Evolutionary Genetics of Reproduction LSM4260 Plankton Ecology LSM4261 Marine Biology LSM4262 Tropical Conservation Biology LSM4263 Field Studies in Biodiversity LSM4264 Freshwater Biology LSM4265 Urban Ecology LSM4266 Aquatic Invertebrate Diversity LSM4267 Light & Vision in Animal Communication LSM4268 Environmental Bioacoustics</p>	<p><u>LSM4xxx Elective Modules (Environmental Biology)</u></p>

List of LSM-Recognised Elective Modules

<p>LSM3991 Exchange Enrichment Module</p> <p>CM3221 Organic Synthesis: The Disconnection Approach CM3222 Organic Reaction Mechanisms CM3225 Biomolecules CM3251 Nanochemistry CM3261 Environmental Chemistry CM4227 Chemical Biology PR3116 Concepts in Pharmacokinetics and Biopharmaceutics PR4205 Bioorganic Principles of Medicinal Chemistry ZB4171 Advanced Topics in Bioinformatics</p> <p>PL3232 Biological Psychology PL3233 Cognitive Psychology</p>	<p><u>Other LSM-Prefixed Modules</u></p> <p><u>Faculty of Science</u></p> <p><u>Faculty of Arts and Social Sciences</u></p>	<p>CN4247R CN4249 CN5172 MT4002</p> <p>SPH3101 SPH3102 SPH3104 SPH3201</p> <p>BSN3701 BSN3712</p>	<p><u>Faculty of Engineering</u></p> <p>Enzyme Technology Engineering Design in Molecular Biotechnology Biochemical Engineering Technology Management Strategy</p> <p><u>Saw Swee Hock School of Public Health</u></p> <p>Biostatistics for Public Health Public Health Communication Infectious disease epidemiology and public health Public Health Practice</p> <p><u>School of Business</u></p> <p>Technological Innovation (also coded as TR3008/A) Innovation and Intellectual Property</p>
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