

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 AY2019/20 AND AY2020/21)	CUMULATIVE MAJOR MC
Level 1000 (16 MC)	Pass <ul style="list-style-type: none"> - LSM1102/2105 Molecular Genetics - LSM1105/2107 Evolutionary Biology - LSM1106 Molecular Cell Biology OR LSM2106 Fundamental Biochemistry - 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 (12 MC)	Pass <ul style="list-style-type: none"> - LSM2191 Laboratory Techniques in Life Sciences - Two LSM22xx modules (except LSM2288 and LSM2289) 	28
Level 3000 (12 MC)	Pass Three LSM32xx modules (except LSM3289), of which one (up to 4 MC) may be LSM42xx (except LSM4299) and/or LSM-recognised elective modules.	40

MODULE LEVEL	SECOND MAJOR IN LIFE SCIENCES REQUIREMENTS (FOR MATRICULATION COHORTS AY2016/17 TO AY2018/19)	CUMULATIVE MAJOR MC
Level 1000 (16 MC)	Pass <ul style="list-style-type: none"> - LSM1102/2105 Molecular Genetics - LSM1105/2107 Evolutionary Biology - LSM1106 Molecular Cell Biology OR LSM2106 Fundamental Biochemistry - 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.

LSM2211 LSM2212 LSM2231 LSM2232 LSM2233 LSM2234 LSM2241 LSM2251 LSM2252 LSM2253 LSM2254 LSM2291	<u>LSM22xx Elective Modules</u> Metabolism and Regulation Human Anatomy General Physiology Genes, Genomes and Biomedical Implications Cell Biology Physical Concepts in Biology Introductory Bioinformatics Ecology and Environment Biodiversity Applied Data Analysis in Ecology and Evolution Fundamentals of Plant Biology Fundamental Techniques in Microbiology	LSM4210 LSM4211 LSM4213 LSM4214 LSM4215 LSM4216 LSM4217 LSM4218 LSM4221 LSM4222 LSM4223 LSM4225 LSM4226 LSM4227 LSM4228 LSM4229 LSM4252	<u>LSM4xxx Elective Modules (Biomedical Science)</u> Topics in Biomedical Science Toxicology Systems Neurobiology Cancer Pharmacology Extreme Physiology Molecular Nutrition and Metabolic Biology Functional Ageing Biotechnology and Biotherapeutics Drug Discovery and Clinical Trials Advanced Immunology Advances in Antimicrobial Strategies Genetic Medicine in the Post-Genomic Era Infection and Immunity Stem Cell Biology Experimental Models for Human Disease and Therapy Therapeutic and diagnostic agents from animal toxins Reproductive Biology
LSM3211 LSM3212 LSM3214 LSM3215 LSM3216 LSM3217 LSM3218 LSM3219 LSM3222 LSM3223 LSM3224 LSM3225 LSM3226 LSM3227 LSM3231 LSM3232 LSM3233 LSM3234 LSM3235 LSM3241 LSM3242 LSM3243 LSM3244 LSM3245 LSM3246 LSM3247 LSM3252 LSM3254 LSM3255 LSM3256 LSM3258 LSM3259 LSM3262 LSM3265 LSM3266 LSM3267 LSM3272 LSM3273 LSM3274 LSM3288	<u>LSM32xx Elective Modules</u> Fundamental Pharmacology Human Physiology: Cardiopulmonary System Human Physiology – Hormones and Health Neuronal Signaling and Memory Mechanisms Neuronal Development and Diseases Human Ageing Cardiopulmonary Pharmacology Neuropharmacology Human Neuroanatomy Immunology Molecular Basis of Human Diseases Molecular Microbiology in Human Diseases Medical Mycology and Drug Discovery General Virology Protein Structure and Function Microbiology Developmental Biology Biological Imaging of Growth and Form Epigenetics in Human Health and Diseases Genomic Data Analysis Translational Microbiology Molecular Biophysics Molecular Biotechnology RNA Biology and Technology Synthetic Biology Practical Synthetic Biology Evolution and Comparative Genomics Ecology of Aquatic Environments Ecology of Terrestrial Environments Tropical Horticulture Comparative Botany Fungal Biology Environmental Animal Physiology Entomology Avian Biology and Evolution Behavioural Biology Global Change Biology Ecology, Conservation and Management of Sri Lankan Ecosystems Eco-Biodiversity Field Techniques in Taiwan & Singapore Advanced UROPS in Life Sciences I	LSM4231 LSM4232 LSM4234 LSM4241 LSM4242 LSM4243 LSM4245 LSM4251	<u>LSM4xxx Elective Modules (Molecular and Cell Biology)</u> Structural Biology Advanced Cell Biology Mechanobiology Functional Genomics Protein Engineering Tumour Biology Advanced Epigenetics and Chromatin Biology Plant Growth and Development
		LSM4254 LSM4255 LSM4256 LSM4257 LSM4259 LSM4260 LSM4261 LSM4262 LSM4263 LSM4264 LSM4265 LSM4266 LSM4267 LSM4268	<u>LSM4xxx Elective Modules (Environmental Biology)</u> Principles of Taxonomy and Systematics Methods in Mathematical Biology Evolution of Development Aquatic Vertebrate Diversity Evolutionary Genetics of Reproduction Plankton Ecology Marine Biology Tropical Conservation Biology Field Studies in Biodiversity Freshwater Biology Urban Ecology Aquatic Invertebrate Diversity Light & Vision in Animal Communication Environmental Bioacoustics

List of LSM-Recognised Elective Modules

LSM3991 CM3221 CM3222 CM3225 CM3251 CM3261 CM4227 PR3116 PR4205 ZB4171 PL3232 PL3233	<u>Other LSM-Prefixed Modules</u> Exchange Enrichment Module <u>Faculty of Science</u> Organic Synthesis: The Disconnection Approach Organic Reaction Mechanisms Biomolecules Nanochemistry Environmental Chemistry Chemical Biology Concepts in Pharmacokinetics and Biopharmaceutics Bioorganic Principles of Medicinal Chemistry Advanced Topics in Bioinformatics <u>Faculty of Arts and Social Sciences</u> Biological Psychology Cognitive Psychology	CN4247R CN4249 CN5172 MT4002 SPH3101 SPH3102 SPH3104/ SPH3202 SPH3001/ SPH3201 SPH3501 BSN3701 BSN3712	<u>Faculty of Engineering</u> Enzyme Technology Engineering Design in Molecular Biotechnology Biochemical Engineering Technology Management Strategy <u>Saw Swee Hock School of Public Health</u> Biostatistics for Public Health Public Health Communication Infectious disease epidemiology and public health Public Health Practice Introduction to Public Health Communication <u>School of Business</u> Technological Innovation (also coded as TR3008/A) Innovation and Intellectual Property
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