

# Life Sciences Curriculum, effective for the Class of 2025

Updated 27 April 2021

## LS COURSE SEQUENCE (FOR STUDENTS ADMITTED IN THE CLASS OF 2025)

Credit 5/0

### 1. Introductory Module YSC 2XXX Science of Life \*

Students who have scored sufficiently high grades in A-level, IB Higher, or Advanced Placement Biology courses (e.g. a 5 on the AP exam) may, with the approval of the Head of Studies, place out of the Introductory Module. These students must read at least one course (5 MC) from each of the three Gateway sets.

**2. Gateway:** Foundation modules - Students who take YSC 2XXX Science of Life need to take **two** out of **three** Breadth requirements (**total 10 MC**). Students who placed out of YSC2XXX need to take at least **one** module from each of the three Breadth groups (**total 15MC**).

Credit 10/15

<p><b>2a. Breadth 1</b> (Choose 1) Genetics, Cell and Molecular Biology</p> <ul style="list-style-type: none"> <li>• YSC2233 Genetics</li> <li>• YSC3233 Cell Biology</li> <li>• YSC3214 Biochemistry</li> <li>• YSC3257 Mol. Biology</li> </ul>	<p><b>2b. Breadth 2</b> (Choose 1) Ecology and Evolution</p> <ul style="list-style-type: none"> <li>• YSC2247 Ecology and Ecosystems</li> <li>• YSC2216 Evolutionary Biology</li> <li>• YSC3251 Conservation Ecology</li> </ul>	<p><b>2c. Breadth 3</b> (Choose 1) Quantitative Biology</p> <ul style="list-style-type: none"> <li>• YSC2XXX* Statistics for LS</li> <li>• YSC3241 Intro. Systems and Computational Biology</li> </ul>
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Credit 5

### 3. Methods (Choose at least 1)

- YSC2202 Bio Lab
- YSC2235 Field Research

Credit 20

### 4. Electives (Select any 4)

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| <ul style="list-style-type: none"> <li>• YSC2241 Plant Biology</li> <li>• YSC2234 Human Biology</li> <li>• YSC2231 Fnds. of Neuroscience</li> <li>• YSC2250 Urban Wildlife Studies</li> <li>• YSC3234 Principles of Biophysics</li> <li>• YSC3235 Animal Behavior</li> <li>• YSC3238 Developmental Ecology</li> <li>• YSC3250 Immunology</li> <li>• YSC3255 The Biology of Aging</li> </ul> | <ul style="list-style-type: none"> <li>• YSC4200 Special Project in Science (Independent Study)</li> <li>• YSC4311 Advanced Topics in a) Molecular, Cellular and Dev. Biology; b) Heredity and Epigenetics; c) Computational Biology                             <ul style="list-style-type: none"> <li>• YSC4229 Advanced Topics in Molecular Neuroscience</li> <li>• YSC4226 Advanced Methods in Cell Biology</li> </ul> </li> </ul> <p style="text-align: center;"><b>Other Modules that count towards LS Major</b></p> <ul style="list-style-type: none"> <li>• YID3221 Wildlife Forensics and the Shark Fin Trade</li> <li>• YSS3249 Human Neuroscience</li> <li>• YSC3253 Coral Reef Ecology and Environmental Change</li> <li>• YSC2236 Microbiomes</li> </ul> |
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• All modules under Methods and Breadth 1, 2 and 3 that have not been taken to satisfy the Gateway requirement.

Credit 15

### 5. Required Advanced and Capstone

- YSC 4102 Capstone project ( Semesters 7 and 8)
- YSC 3215 Research Seminar (preferred in 5th semester)

#### Modular Credits

<b>• Introductory</b>	5/0	Under Gateway and Electives, at least two modules must be at 3000 level or higher, and a third at 4000 level.
<b>• Gateway and Methods</b>	15/20	<b>MINOR REQUIREMENT-any 5 modules that are listed under Life Science as the primary major, that is, NOT cross-listed modules that are from another major</b>
<b>• Electives</b>	20	
<b>• Advanced</b>	15	
<b>• Total</b>	<b>55**</b>	* New Courses/ Proposed to start in AY20-21 or AY21-22

(\*a student may complete a min of 54 MC if they have been approved to substitute modules read from NUS or from credit transfer)