

## Graduation Requirements for AY15/16

### Environmental Biology

Summary of Requirements	MCs
UNIVERSITY LEVEL REQUIREMENTS	20
General Education	5 Pillars: <ul style="list-style-type: none"><li>• Quantitative Reasoning (GER1000)</li><li>• Singapore Studies (GES)</li><li>• Thinking and Expression (GET)</li><li>• Human Cultures (GEH)</li><li>• GES/GET/GEH</li></ul>
UNRESTRICTED ELECTIVES	23-24
PROGRAMME REQUIREMENTS	116-117
<b>TOTAL</b>	<b>160</b>

### Environmental Geography

Summary of Requirements	MCs
UNIVERSITY LEVEL REQUIREMENTS	20
General Education	5 Pillars: <ul style="list-style-type: none"><li>• Quantitative Reasoning (GER1000)</li><li>• Singapore Studies (GES)</li><li>• Thinking and Expression (GET)</li><li>• Human Cultures (GEH)</li><li>• GES/GET/GEH</li></ul>
UNRESTRICTED ELECTIVES	18-19
PROGRAMME REQUIREMENTS	121-122
<b>TOTAL</b>	<b>160</b>

**Programme requirements for students in the Bachelor of Environmental Studies (For Cohort AY15/16)  
(Environmental Biology specialization)**

Level	Programme Requirements	Cumulative MCs
<b>1000</b>	CM1402 <b>General Chemistry</b> EC1301 <b>Principles of Economics</b> ENV1101 <b>Environmental Studies: An Interdisciplinary Overview</b> ESE1001/ESE1001FC <b>Environmental Engineering Fundamentals</b> GE1101E <b>Geographical Journeys: Exploring World Environments</b> LSM1103 <b>Biodiversity</b> MA1312 <b>Calculus with Applications</b> ST1232 <b>Statistics for Life Sciences</b> ENV1202 <b>Communications for Environmental Studies</b>	<b>36</b>
<b>2000</b>	ENV2101 <b>Global Environmental Change</b> ENV2102 <b>Environmental Law, Policy, Governance &amp; Management</b> ENV2103 <b>Environmental and Public Health</b>  Choose 3 modules from the following list: ESE2401 <b>Water Science &amp; Technology</b> GE2101 <b>Methods and Practices in Geography</b> GE2215 <b>Introduction to GIS and Remote Sensing Methods</b> GE2220 <b>Terrestrial and Coastal Environment</b> GE2221 <b>Nature and Society</b> GE2228 <b>Weather and Climate</b> GE2229 <b>Water and the Environment</b> GE2230 <b>Energy Futures: Environment and Sustainability</b> HY2235/GEK2008 <b>Environmental History</b> LSM2251 <b>Ecology &amp; Environment</b> PH2216 <b>Environmental Philosophy</b> <sup>^</sup> PH2226 <b>Concept of Nature in Inquiry</b> <sup>^</sup> RE2701 <b>Urban Planning</b> SC2221 <b>Environment &amp; Society</b>  <sup>^</sup> Students have the choice to read both PH2216 and PH2226. However, only 4 MC can satisfy the programme requirements. The other 4 MC will count towards Unrestricted Electives.	<b>60</b>
<b>3000</b>	ENV3101 <b>Environmental Challenges: Asian Case Studies I</b> ENV3102 <b>Environmental Challenges: Asian Case Studies II</b> ENV3103 <b>Environmental Economics</b>	<b>84</b>

	<p>Choose any 3 of the following modules with not more than 1 module from List A:</p> <p>LSM3252 <b>Evolution and Comparative Genomics</b></p> <p>LSM3253 <b>Plant Physiology</b> (<i>module is not offered from AY2015/16 Semester 1 onwards</i>)</p> <p>LSM3254 <b>Ecology of Aquatic Environments</b></p> <p>LSM3255 <b>Ecology of Terrestrial Environments</b></p> <p>LSM3256 <b>Tropical Horticulture</b></p> <p>LSM3257 <b>Quantitative Methods for Ecological Research</b></p> <p>LSM3261 <b>Life Form and Function</b> (<i>module is not offered from AY2015/16 Semester 1 onwards</i>)</p> <p>LSM3262 <b>Environmental Animal Physiology</b></p> <p>LSM3263 <b>Field Studies in Neotropical Ecosystems</b></p> <p>LSM3265 <b>Entomology</b></p> <p>LSM3266 <b>Avian Biology and Evolution</b></p> <p>LSM3267 <b>Behavioural Biology</b></p> <p>LSM3288/LSM3289 <b>Advanced UROPS in Life Sciences I/II or</b></p> <p>ENV3202 <b>Environmental Studies Internship Programme (4 MC)*</b></p> <p>List A modules<sup>#</sup></p> <p>* Students have the choice to read both Internship and LSM3288. However, only 4 MC can satisfy the programme requirements. The other 4 MC will count towards Unrestricted Electives.</p>	
<p><b>4000 (32-33 MCs)</b></p>	<p>LSM4199 <b>Honours Project (16 MC)</b></p> <p>ENV4101 <b>Environmental Management in Singapore</b></p> <p>Choose any 3 of the following modules with not more than 1 module from List B:</p> <p>LSM4254 <b>Principles of Taxonomy and Systematics</b></p> <p>LSM4255 <b>Methods in Mathematical Biology</b></p> <p>LSM4257 <b>Aquatic Vertebrate Diversity (new)</b></p> <p>LSM4261 <b>Marine Biology</b></p> <p>LSM4262 <b>Tropical Conservation Biology</b></p> <p>LSM4263 <b>Field Studies in Biodiversity</b></p> <p>LSM4264 <b>Freshwater Biology</b></p> <p>LSM4265 <b>Urban Ecology</b></p> <p>LSM4267 <b>Animal Communications &amp; Sensory Ecology</b></p> <p>List B modules<sup>#</sup></p>	<p><b>116-117</b></p>

<p><b># List A:</b></p> <p>GE3210 Natural Resources: Policy and Practice  GE3216 Applications of GIS and Remote Sensing  GE3221 Ecological Systems  GE3223 Environmental Changes in the Tropics  GE3227 Urban Climates  GE3231 Natural Hazards  GE3233 Environmental Research Methods  GE3238 GIS Design and Practices  GE3239 Environmental Sustainability  GE3242 Sediments and Sedimentary Basins  GE3243 Applied Petroleum Exploration  GE3244 Fundamentals of Petroleum Exploration  GE3246 Environmental Pollution  EC3384 Resource and Energy Economics I  XD3103 Planet Earth  ESE3101 Solid and Hazardous Waste Management  ESE3201 Air Quality Management  ESE3301 Environmental Microbiological Principles  ESE3401 Waste and Wastewater Engineering 1  PF3302 Energy Management  AR2723 Strategies for Sustainable Architecture</p>	<p><b># List B:</b></p> <p>GE4207 Coastal Management (5 MC)  GE4211 Advanced Hydrology and Water Resources Management (5 MC)  GE4212 Environmental Modelling (5 MC)  GE4214 Remote Sensing of Environment (5 MC)  GE4219 Development and Environment in Southeast Asia (5 MC)  GE4220 Field Investigation in Physical Geography (5 MC)  GE4222 Advanced Geomorphology (5 MC)  GE4223 Development of Geographical Thought (5 MC)  GE4224 Applied Biogeography (5 MC)  GE4227 Climate Change: Processes, Impact and Responses (5 MC)  GE4229 Earth Systems Science (5 MC)  GE4880 Topics in Geography (5 MC)  CE4231 Earth's Climate: Science &amp; Modelling  ESE4301 Wastewater Biotechnology  ESE4401 Water &amp; Wastewater Engineering 2  ESE4402 Treatment Plant Hydraulics</p>
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**Programme requirements for students in the Bachelor of Environmental Studies (For Cohort AY15/16)  
(Environmental Geography specialization)**

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<b>1000</b>	CM1402 <b>General Chemistry</b> EC1301 <b>Principles of Economics</b> ENV1101 <b>Environmental Studies: An Interdisciplinary Overview</b> ESE1001/ESE1001FC <b>Environmental Engineering Fundamentals</b> GE1101E <b>Geographical Journeys: Exploring World Environments</b> LSM1103 <b>Biodiversity</b> MA1312 <b>Calculus with Applications</b> ST1232 <b>Statistics for Life Sciences</b> ENV1202 <b>Communications for Environmental Studies</b>	<b>36</b>
<b>2000</b>	ENV2101 <b>Global Environmental Change</b> ENV2102 <b>Environmental Law, Policy, Governance &amp; Management</b> ENV2103 <b>Environmental and Public Health</b>  <u>Choose 3 modules from the following list:</u> ESE2401 <b>Water Science &amp; Technology</b> GE2101 <b>Methods and Practices in Geography</b> GE2215 <b>Introduction to GIS and Remote Sensing Methods</b> GE2220 <b>Terrestrial and Coastal Environment</b> GE2221 <b>Nature and Society</b> GE2228 <b>Weather and Climate</b> GE2229 <b>Water and the Environment</b> GE2230 <b>Energy Futures: Environment and Sustainability</b> HY2235/GEK2008 <b>Environmental History</b> LSM2251 <b>Ecology &amp; Environment</b> PH2216 <b>Environmental Philosophy</b> ^ PH2226 <b>Concept of Nature in Inquiry</b> ^ RE2701 <b>Urban Planning</b> SC2221 <b>Environment &amp; Society</b>	<b>60</b>
<b>3000</b>	ENV3101 <b>Environmental Challenges: Asian Case Studies I</b> ENV3102 <b>Environmental Challenges: Asian Case Studies II</b> ENV3103 <b>Environmental Economics</b> GE3240 <b>Geographical Research: Developing Ideas</b>	<b>88</b>

^ Students have the choice to read both PH2216 and PH2226. However, only 4 MC can satisfy the programme requirements. The other 4 MC will count towards Unrestricted Electives.

	<p>Choose any 3 of the following modules with not more than 1 module from List C:</p> <p>GE3210 <b>Natural Resources: Policy and Practice</b>  GE3216 <b>Applications of GIS and Remote Sensing</b>  GE3221 <b>Ecological Systems</b>  GE3223 <b>Environmental Changes in the Tropics</b>  GE3227 <b>Urban Climates</b>  GE3230A <b>Field Studies in Geography: Southeast Asia (8 MC)</b><sup>†</sup>  GE3231 <b>Natural Hazards</b>  GE3233 <b>Environmental Research Methods</b>  GE3238 <b>GIS Design and Practices</b>  GE3239 <b>Environmental Sustainability</b>  GE3242 <b>Sediments and Sedimentary Basins</b>  GE3243 <b>Applied Petroleum Exploration</b>  GE3244 <b>Fundamentals of Petroleum Exploration</b>  GE3246 <b>Environmental Pollution</b>  EC3384 <b>Resource and Energy Economics I</b>  XD3103 <b>Planet Earth</b>  GE3551 <b>FASS UROP</b> <i>or</i>  ENV3202 <b>Environmental Studies Internship Programme (4 MC)</b> *</p> <p>List C modules<sup>#</sup></p> <p><sup>†</sup> If students read GE3230A, they will be deemed to have fulfilled 2 out of the 3 modules.  * Students have the choice to read both Internship and GE3551. However, only 4 MC can satisfy the programme requirements. The other 4 MC will count towards Unrestricted Electives.</p>	
<p><b>4000 (33-34 MCs)</b></p>	<p>GE4401 <b>Honours Thesis (15 MC)</b>  ENV4101 <b>Environmental Management in Singapore</b></p> <p>Choose any 3 of the following modules with not more than 1 module from List D:</p> <p>GE4207 <b>Coastal Management (5 MC)</b>  GE4211 <b>Advanced Hydrology and Water Resources Management (5 MC)</b>  GE4212 <b>Environmental Modelling (5 MC)</b>  GE4214 <b>Remote Sensing of Environment (5 MC)</b>  GE4219 <b>Development and Environment in Southeast Asia (5 MC)</b>  GE4220 <b>Field Investigation in Physical Geography (5 MC)</b>  GE4222 <b>Advanced Geomorphology (5 MC)</b>  GE4223 <b>Development of Geographical Thought (5 MC)</b>  GE4224 <b>Applied Biogeography (5 MC)</b>  GE4227 <b>Climate Change: Processes, Impact and Responses (5 MC)</b>  GE4229 <b>Earth Systems Science (5 MC)</b>  GE4880 <b>Topics in Geography (5 MC)</b></p> <p>List D modules<sup>#</sup></p>	<p><b>121-122</b></p>

<p><b># List C:</b></p> <p>LSM3252 Evolution and Comparative Genomics</p> <p>LSM3253 Plant Physiology (<i>module is not offered from AY2015/16 Semester 1 onwards</i>)</p> <p>LSM3254 Ecology of Aquatic Environments</p> <p>LSM3255 Ecology of Terrestrial Environments</p> <p>LSM3256 Tropical Horticulture</p> <p>LSM3257 Quantitative Methods for Ecological Research</p> <p>LSM3261 Life Form and Function (<i>module is not offered from AY2015/16 Semester 1 onwards</i>)</p> <p>LSM3262 Environmental Animal Physiology</p> <p>LSM3263 Field Studies in Neotropical Ecosystems</p> <p>LSM3265 Entomology</p> <p>LSM3266 Avian Biology and Evolution</p> <p>LSM3267 Behavioural Biology</p> <p>ESE3101 Solid and Hazardous Waste Management</p> <p>ESE3201 Air Quality Management</p> <p>ESE3301 Environmental Microbiological Principles</p> <p>ESE3401 Waste and Wastewater Engineering 1</p> <p>PF3302 Energy Management</p> <p>AR2723 Strategies for Sustainable Architecture</p>	<p><b># List D:</b></p> <p>LSM4254 Principles of Taxonomy and Systematics</p> <p>LSM4255 Methods in Mathematical Biology</p> <p><b>LSM4257 Aquatic Vertebrate Diversity (new)</b></p> <p>LSM4261 Marine Biology</p> <p>LSM4262 Tropical Conservation Biology</p> <p>LSM4263 Field Studies in Biodiversity</p> <p>LSM4264 Freshwater Biology</p> <p>LSM4265 Urban Ecology</p> <p>LSM4267 Animal Communications &amp; Sensory Ecology</p> <p>CE4231 Earth's Climate: Science &amp; Modelling</p> <p>ESE4301 Wastewater Biotechnology</p> <p>ESE4401 Water &amp; Wastewater Engineering 2</p> <p>ESE4402 Treatment Plant Hydraulics</p>
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