Society and the Earth System

The Society and the Earth System specialisation includes interdisciplinary coursework in sociology, economics, and law in addition to core classes in Earth and environmental sciences. This gives students a unique understanding of how humans relate to the environment, and the complex issues of sustainable societies. Students who choose this specialisation will be prepared for careers in environmental planning, policy, and management, and even careers in business, finance, and government. Students will also be prepared to continue their studies in graduate programmes in urban planning and development, environmental/public policy, or business.

All Specialisations
(Academic Year 2018/19)

Major Core

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>AU</th>
<th>Year Taken</th>
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<th>Prerequisite</th>
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<tr>
<td>ES1001</td>
<td>E2S2 Environment and Society</td>
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<td>ES1003</td>
<td>E2S2 Solid Earth</td>
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<tr>
<td>ES1006</td>
<td>Introductory Field Experience</td>
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<tr>
<td>ES1007</td>
<td>Climate Change</td>
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<td>ES1001</td>
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<td>ES2001</td>
<td>Computational Earth Systems Science</td>
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<td>E2S2 Biosphere</td>
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<tr>
<td>ES2802</td>
<td>GIS and the Earth System</td>
<td>3</td>
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<tr>
<td>ES3001</td>
<td>Futures in E2S2</td>
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<tr>
<td>MH1802</td>
<td>Calculus for the Sciences</td>
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**Society and the Earth System Specialisation**  
*(Academic Year 2018/19)*  
**Additional Major Core**

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<td>ES2201</td>
<td>Law &amp; Economics, Sustainable Development, and Environmental Protection</td>
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<td>Sem 2</td>
<td>ES1001</td>
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<tr>
<td>ES2202</td>
<td>Global Environmental Politics and Governance</td>
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<td>Year 2</td>
<td>Sem 2</td>
<td>ES1001; ES2003</td>
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<tr>
<td>ES2303</td>
<td>Introduction to Ecology</td>
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<tr>
<td>ES3201</td>
<td>Coupled Human and Natural Systems</td>
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<td>HE9091</td>
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<tr>
<td>MH2500</td>
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<td>MH1800 and MH1801</td>
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**Major-PE**

*Students must take at least 13 AU of Basic Science courses (BS/CM/PH).*  
*Society and the Earth System Specialization students must take a total of 29AU from the Major-PE table.*

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<th>Course Code</th>
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<td>Biochemistry I</td>
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<tr>
<td>BS1008</td>
<td>Bioinformatics and Statistics</td>
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<td>Sem 2</td>
<td>BS1001</td>
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<td>BS2002</td>
<td>Microbiology</td>
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<td>CM1021</td>
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<td>CM1031</td>
<td>Basic Organic Chemistry</td>
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<td>H2 Chem</td>
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<tr>
<td>CM1041</td>
<td>Basic Physical Chemistry</td>
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<td>H2 Chem</td>
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<td>Analytical Chemistry</td>
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<td>Environmental Chemistry</td>
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<td>REQUIRED if no H2 Chemistry</td>
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<td>EM9101</td>
<td>Environmental Quality</td>
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<td>EM9106</td>
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<td>ES2002</td>
<td>Earth Materials</td>
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<td>ES1003</td>
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<td>ES2004</td>
<td>Layers and Landforms</td>
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<td>Sem 2</td>
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<td>Introduction to Geological Field Mapping</td>
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<tr>
<td>ES2301</td>
<td>Principles of Heredity and Ecological Genetics</td>
<td>4</td>
<td>Sem 2</td>
<td>ES2003, CM1021/CM1031</td>
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<td>ES2302</td>
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<td>ES2801</td>
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<td>ES3002</td>
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<td>ES3008</td>
<td>Environmental Earth Systems Science Research</td>
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<td>ES3301</td>
<td>Plant and Animal Physiology</td>
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<td>ES3305</td>
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<td>ES3306</td>
<td>Global Change Ecology</td>
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<td>ES2003, ES2303</td>
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<td>ES3801</td>
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<td>Sem 1&amp;2</td>
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<td>ES4003</td>
<td>Industrial Attachment</td>
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<td>ES4006</td>
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<td>Teaching in E2S2</td>
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<td>ES4301</td>
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<td>Environmental Genomics</td>
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<td>Marine and Aquatic Ecology</td>
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<td>ES4901</td>
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<td>ES4902</td>
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<td>HS2022</td>
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<td>HS2023</td>
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<td>HE3005</td>
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<td>PH1104</td>
<td>Mechanics</td>
<td>Sem 1</td>
<td>3</td>
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<tr>
<td>PH1801</td>
<td>Foundations of Physics I</td>
<td>Sem 1</td>
<td>3</td>
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<tr>
<td>PH1106</td>
<td>Electricity and Magnetism</td>
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For students admitted in AY2016/17 onwards:

- ES1003, ES1001, ES1007, ES2003, Whichever course the student will be a teaching assistant for.
- AAB20D/ES2303, ES2301 and ES3301
- ES2303 Introduction to Ecology
- ES2001; cross-listed with ES7008
- MH1800 Calculus for the Sciences I OR MH1802 Calculus for the Sciences, ES2001 Computational Earth Systems Science, PH1801 Foundation of Physics I & MH1200 Linear Algebra
- A or H2 Physics and Maths; Not available to: Students who have taken/are taking PH1011, PH1012, PH1101, PAP111, PH1801, PAP181, PHYS1A, CY1301, CY1305
- Physics and Mathematics at A or H2 level or equivalent
- A or H2 Physics and Maths; Not available
to: Students who have taken/are taking PH1011, PH1012, PH1102, PAP112, PH1802, PAP182, EE1002, PHYS1B, CY1302, CY1306

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>AU</th>
<th>Year Taken</th>
<th>Prerequisite</th>
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<td>Foundations of Physics II</td>
<td>3</td>
<td>Sem 2</td>
<td>PAP181 OR PH1801</td>
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<tr>
<td>PH1105</td>
<td>Optics, Vibrations and Waves</td>
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<td>A or H2 Physics and Maths; Not available to: Students who have taken/are taking PH1103, PAP113, EE1002</td>
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<td>PH1107</td>
<td>Relativity and Quantum Physics</td>
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<td>Sem 2</td>
<td>A or H2 Physics and Maths; Not available to: Students who have taken/are taking PH1101, PAP111, CY1307</td>
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**GER Core**

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<td>GC0001</td>
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<td>Singapore Studies - The Physical Environments of Singapore</td>
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<td>2</td>
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<td>HY0001</td>
<td>Ethics and Moral Reasoning</td>
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<td>ES0238</td>
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