

Curriculum for B. Sc in Environmental Earth Systems Science and Public Policy and Global Affairs

Academic Year 2017/18

EESS-SES major:

| Major Core (14 courses totaling 49 AUs) | | |
|---|--|-----|
| Course Code | Course Title | AUs |
| ES1001 | E2S2 Environment and Society | 4 |
| ES1003 | E2S2 Solid Earth | 4 |
| ES1006 | Introductory Field Experience | 4 |
| ES1007 | E2S2 Oceans, Atmosphere and Climate | 4 |
| ES2001 | Computational Earth Systems Science | 4 |
| ES2003 | E2S2 Biosphere | 4 |
| MH1802 | Calculus for the Sciences | 4 |
| ES2303 | Introduction to Ecology | 3 |
| ES2201 | Law & Economics, Sustainable Development, and Environmental Protection | 3 |
| ES2202 | Global Environmental Politics and Governance | 4 |
| ES3201 | Coupled Human and Natural Systems | 4 |
| ES2802 | GIS and the Earth System | 3 |
| MH2500 | Probability and Introduction to Statistics | 4 |

| Major Prescribed Electives (2 courses totaling 18 AUs inclusive of ES4002 Final Year Project) | | |
|--|-------------------------------|-----|
| Course Code | Course Title | AUs |
| BS1005 | Biochemistry I | 3 |
| BS1008 | Bioinformatics and Statistics | 3 |
| BS2002 | Microbiology | 3 |
| CM1021 | Basic Inorganic Chemistry | 4 |

| | | |
|--------|---|----|
| CM1031 | Basic Organic Chemistry | 4 |
| CM1041 | Basic Physical Chemistry | 4 |
| CM2011 | Analytical and Bioanalytical Chemistry | 3 |
| EM9101 | Environmental Quality | 3 |
| EM9106 | Environmental Impact Assessment | 3 |
| ES2002 | Earth Materials | 4 |
| ES2004 | Layers and Landforms | 4 |
| ES2101 | Introduction to Geological Field Mapping | 2 |
| ES2301 | Principles of Heredity and Ecological Genetics | 4 |
| ES2302 | Introduction to Field Ecology | 2 |
| ES3002 | Structural Geology and Tectonics | 4 |
| ES3003 | Introduction to Geochemistry | 4 |
| ES3004 | Introduction to Geophysics | 4 |
| ES3005 | Advanced Field Course in Geology | 5 |
| ES3008 | E2S2 Research | 3 |
| ES3101 | Petroleum Geology of South East Asia | 4 |
| ES3301 | Plant and Animal Physiology | 4 |
| ES3302 | Tropical Ecology | 3 |
| ES3303 | Environmental Biotechnology | 3 |
| ES4002 | Final Year Project | 10 |
| ES4003 | Professional Internship | 10 |
| ES4006 | Volcanic Processes | 3 |
| ES4008 | Teaching in Environmental Earth Systems Science | 4 |
| ES4301 | Conservation Biology and Biodiversity | 3 |
| ES4302 | Environmental Genomics | 4 |
| ES4303 | Introduction to Atmospheric Chemistry | 3 |
| ES4901 | Oceanography | 3 |
| ES4902 | Geophysical Data Analysis | 3 |

| | | |
|--------|---|---|
| ES4903 | Marine and Aquatic Ecology | 3 |
| ES4904 | Seismology | 3 |
| ES4905 | Mathematical Foundations in Geophysics | 3 |
| ES4906 | Isotope Geochemistry | 4 |
| ES4907 | Geophysical Inverse Theory | 3 |
| ES4908 | Advanced research skills in Earth Systems Science | 1 |
| ES4909 | Continuum Mechanics | 3 |
| ES4910 | Lithosphere Deformation Mechanics | 4 |
| HP1100 | Fundamentals of Social Science Research | 3 |
| PH1104 | Mechanics | 3 |
| PH1106 | Electricity and Magnetism | 3 |
| PH1105 | Optics, Vibrations and Waves | 3 |
| PH1107 | Relativity and Quantum Physics | 3 |
| PH1801 | Foundations of Physics I | 3 |
| PH1802 | Foundations of Physics II | 3 |

PPGA major:

| Major Core (5 courses totaling 15 AUs) | | |
|--|--|-----|
| Course Code | Course Title | AUs |
| HA1001 | Introduction to International Relations and Foreign Policy | 3 |
| HA1002 | Introduction to Political Theory | 3 |
| HA1003 | Introduction to Public Administration and Policy | 3 |
| HA1011 | Politics of Singapore | 3 |
| HA1012 | Fundamentals of Politics | 3 |

| Major Prescribed Electives (13 courses totaling 42 AUs) 10 modules from the HA2xxx and HA3xxx basket + 3 modules from the HA4xxx basket | | |
|--|--|----------|
| Course Code | Course Title | AUs |
| Politics and International Relations | | |
| <u>HA2003</u> | <u>Politics and Government in Southeast Asia</u> | <u>3</u> |
| <u>HA2004</u> | <u>Theories in International Relations</u> | <u>3</u> |
| <u>HA2005</u> | <u>Contemporary Political Theory</u> | <u>3</u> |
| <u>HA2006</u> | <u>The Rise of China</u> | <u>3</u> |
| <u>HA2015</u> | <u>China in Africa</u> | <u>3</u> |
| <u>HA2017</u> | <u>Foreign Policy and Analysis</u> | <u>3</u> |
| <u>HA3003</u> | <u>The Politics of Ethnicity</u> | <u>3</u> |
| <u>HA3004</u> | <u>United States and East Asia</u> | <u>3</u> |
| <u>HA3005</u> | <u>Politics of the Developing World</u> | <u>3</u> |
| <u>HA3006</u> | <u>Asian Political Thought</u> | <u>3</u> |
| <u>HA3014</u> | <u>Singapore's Foreign Policy</u> | <u>3</u> |
| <u>HA3015</u> | <u>Media and Politics</u> | <u>3</u> |

| | | |
|---|---|----------|
| <u>HA3016</u> | <u>China's Foreign Policy</u> | <u>3</u> |
| <u>HA3018</u> | <u>Borderless Migration</u> | <u>3</u> |
| <u>HA3019</u> | <u>East Asian Security</u> | <u>3</u> |
| <u>HA3020</u> | <u>Justice</u> | <u>3</u> |
| <u>HA3021</u> | <u>Comparative Politics in Asia</u> | <u>3</u> |
| <u>HA4001</u> | <u>ASEAN in the 21st Century</u> | <u>4</u> |
| <u>HA4002</u> | <u>Politics of Democratization in East and West</u> | <u>4</u> |
| <u>HA4003</u> | <u>Globalization and East Asian Politics</u> | <u>4</u> |
| <u>HA4004</u> | <u>Terrorism and Security</u> | <u>4</u> |
| <u>HA4013</u> | <u>Advanced Topics in Democratic Theory: Democracy & Division</u> | <u>4</u> |
| <u>HA4014</u> | <u>European Union</u> | <u>4</u> |
| <u>HA4016</u> | <u>Global Cities</u> | <u>4</u> |
| Public Policy and Administration | | |
| <u>HA1006</u> | <u>Public Administration in Singapore</u> | <u>3</u> |
| <u>HA1007</u> | <u>Public Policy-making in Singapore</u> | <u>3</u> |
| <u>HA2007</u> | <u>Human Resources Management in Public Sector</u> | <u>3</u> |
| <u>HA2008</u> | <u>Government, Nonprofits and Society</u> | <u>3</u> |
| <u>HA2009</u> | <u>The Making of E-government</u> | <u>3</u> |
| <u>HA2010</u> | <u>Public Administration in Southeast Asia</u> | <u>3</u> |
| <u>HA2011</u> | <u>Cost-benefit Analysis in Public Policy</u> | <u>3</u> |
| <u>HA2012</u> | <u>Global Problems and Policy</u> | <u>3</u> |
| <u>HA2013</u> | <u>Comparative Public Policy</u> | <u>3</u> |
| <u>HA2014</u> | <u>Public Organization and Management</u> | <u>3</u> |
| <u>HA2016</u> | <u>Global Governance and Regulation</u> | <u>3</u> |
| <u>HA2020</u> | <u>Socio-Political Analysis in Public Policy</u> | <u>3</u> |
| <u>HA2021</u> | <u>Public Administration in Singapore</u> | <u>3</u> |
| <u>HA2022</u> | <u>Public-Policy Making In Singapore</u> | <u>3</u> |
| <u>HA2023</u> | <u>Research Methods in Social Sciences</u> | <u>3</u> |

| | | |
|---------------|---|----------|
| <u>HA2024</u> | <u>Statistical Foundations for Public Administration and Policy</u> | <u>3</u> |
| <u>HA3007</u> | <u>Public Budgeting and Financial Management</u> | <u>3</u> |
| <u>HA3008</u> | <u>Nonprofit Management and Social Entrepreneurship</u> | <u>3</u> |
| <u>HA3009</u> | <u>Comparative Public Administration</u> | <u>3</u> |
| <u>HA3010</u> | <u>Mass Media and Public Policy</u> | <u>3</u> |
| <u>HA3011</u> | <u>Science, Technology and Public Policy</u> | <u>3</u> |
| <u>HA3013</u> | <u>Managing Human Behaviour in the Public Sector</u> | <u>3</u> |
| <u>HA3017</u> | <u>Governance and Politics of China</u> | <u>3</u> |
| <u>HA3018</u> | <u>Borderless Migration?</u> | <u>3</u> |
| <u>HA4005</u> | <u>Constitutional and Administrative Law in Singapore</u> | <u>4</u> |
| <u>HA4006</u> | <u>Special Topic in Public Administration</u> | <u>4</u> |
| <u>HA4008</u> | <u>Ethics of Public Administration and Policy</u> | <u>4</u> |
| <u>HA4009</u> | <u>Special Issues in Public Policy</u> | <u>4</u> |
| <u>HA4010</u> | <u>Technology, Innovation and Policy</u> | <u>4</u> |
| <u>HA4011</u> | <u>Public Administration: Past, Present & Future</u> | <u>4</u> |
| <u>HA4012</u> | <u>Challenging Issues in Singapore</u> | <u>4</u> |
| <u>HA4015</u> | <u>Performance Management in the Public Sector</u> | <u>4</u> |
| <u>HA4017</u> | <u>Economics Issues for Public Decision Making</u> | <u>4</u> |
| <u>HA4018</u> | <u>Policy Evaluation</u> | <u>4</u> |