Asian School of the Environment
A School of the College of Science

Environmental Earth Systems Science
Environmental Earth Systems Science and Public Policy and Global Affairs
THE ASIAN SCHOOL OF THE ENVIRONMENT

The Asian School of the Environment (ASE) at Nanyang Technological University (NTU) is an interdisciplinary School that aims to be a world leader in environmental research focusing on environmental challenges in Asia. The ASE integrates earth and environmental life science, ecology, engineering and technology, human ecology, humanities, and the social sciences to address key issues of the environment and sustainability. The ASE builds upon the strengths of the Earth Observatory of Singapore (EOS) and the Singapore Centre for Environmental Life Science Engineering (SCELSE), two research Centres of Excellence within NTU. The School also collaborates with the Complexity Institute and other academic units of the University.
Examining uplifted corals in Myanmar.

SOLUTIONS FOR EARTH’S FUTURE

Undergraduates will learn the skills to tackle some of the big issues facing the world today: human impact on the environment, effects of climate change, location and management of natural resources, forecast and mitigation of natural disasters, water resource availability, implementation or alternative energy systems, and ecosystem conservation.
ENVIRONMENTAL EARTH SYSTEMS SCIENCE (EESS)

The Environmental Earth Systems Science Major is the flagship programme of the ASE. This highly selective programme favours a small cohort, creating an innovative and interactive learning environment. Students who choose this course will gain a strong background in quantitative skills, modern computing techniques, and core environmental earth systems, maths, and sciences.

ENVIRONMENTAL EARTH SYSTEMS SCIENCE AND PUBLIC POLICY AND GLOBAL AFFAIRS (ESPP)

ESPP is a new double major programme, combining courses from ASE and the School of Social Sciences. Students admitted to this multidisciplinary course will develop a strong background in quantitative environmental earth systems science and communication, public affairs, and international relations. The joint programme will give students the opportunity to build complementary skills in leadership, group work, and innovative problem-solving, empowering the next generation of public policy makers with the tools required to face the challenges of today’s rapidly changing world.
CURRICULUM OVERVIEW FOR EESS

Courses for all specialisations

E2S2 Core Modules:
- E2S2 Environment & Society
- E2S2 Solid Earth
- E2S2 Oceans, Atmosphere and Climate
- E2S2 Biosphere
- Introductory Field Experience (Bali)
- Computational Earth Systems Science
- Futures in E2S2
- Calculus for the Sciences
- GIS and the Earth System

Math and Sciences Foundation Modules:
- 4 – 6 courses from Biology, Chemistry and Physics

Electives for Honours Eligibility (by application):
- Final Year Project
- Professional Internship

Specialisation Core Courses

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<th>Geosciences</th>
<th>Ecology and Ecosystems</th>
<th>Society and the Earth System</th>
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<tbody>
<tr>
<td>Earth Materials</td>
<td>Introduction to Ecology</td>
<td>Introduction to Ecology</td>
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<td>Intro. to Geological Field Mapping</td>
<td>Introductory Biology</td>
<td>Law &amp; Econ: Environment Protection, Policy &amp; Planning</td>
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<td>Structural Geology and Tectonics</td>
<td>Bioinformatics &amp; Statistics</td>
<td>Probability and Introduction to Statistics</td>
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<td>Layers and Landforms</td>
<td>Microbiology</td>
<td>Global Environmental Politics and Governance</td>
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<tr>
<td>Intro. to Geochemistry</td>
<td>Principles of Heredity and Ecological Genetics</td>
<td>Coupled Human and Natural Systems</td>
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<td>Intro. to Geophysics</td>
<td>Intro. to Field Ecology</td>
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<td>Advanced Field Course in Geology</td>
<td>Plant &amp; Animal Physiology</td>
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<td>Conservation Biology and Biodiversity</td>
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CURRICULUM OVERVIEW FOR ESPP

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<th>EESS Core Courses</th>
<th>PPGA Core Courses</th>
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<tr>
<td>• E2S2 Environment &amp; Society</td>
<td>• Introduction to International Relations and Foreign Policy</td>
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<td>• E2S2 Solid Earth</td>
<td>• Introduction to Political Theory</td>
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<td>• E2S2 Oceans, Atmosphere and Climate</td>
<td>• Introduction to Public Administration and Policy</td>
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<td>• E2S2 Biosphere</td>
<td>• Politics of Singapore</td>
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<td>• Introductory Field Experience (Bali)</td>
<td>• Fundamentals of Politics</td>
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<td>• Computational Earth Systems Science</td>
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EXCITING CAREER OPPORTUNITIES

- Environmental planning, policy, and management
- Water resource management/hydrogeology
- Natural resource exploration, extraction, and management (oil, gas, and minerals)
- Environmental consulting
- Geotechnical consulting
- Geologic surveying or monitoring
- Urban planning
- Teaching or research
- Conservation

Graduates will also have the opportunity to choose careers with employers not commonly associated with earth and environmental sciences, such as:

- Insurance companies, who rely on earth scientists to help assess long-term risk due to earthquakes, volcanoes, climate change, and other natural disasters
- Financial sector, where firms seek quantitative knowledge about the science driving changes in the energy market
- Business, for companies that value technical know-how and creativity
ADMISSIONS

Our major programmes are highly selective. Between 30 to 40 students are admitted each year. Students will be evaluated on an oral interview and academic background. ASE undergraduate programmes accepts ‘A’ Level, IB, NUSHS Diploma, Polytechnic Diploma and other equivalent international qualifications on a selective basis. All candidates with strong academic potential who satisfy the minimum subject requirements as well as the general admission requirements set by NTU will be considered.

Minimum subject requirements:

Singapore Cambridge A Level students:
- H1 Level pass in Mathematics AND
- H2 Level Pass in Physics/Chemistry/Biology/Economics/Computing
- A good grade in General Paper/Knowledge & Inquiry/H1 Level History/English Literature/Geography (For ESPP students only)

IB Diploma students:
- Mathematics at Standard Level AND
- Physics/Chemistry/Biology/Economics/Computer Science at Higher Level
- A good grade in English at Standard Level (for ESPP students only)
International and other qualifications:

• O-Levels/Additional Mathematics at Junior High School AND
• Physics/Chemistry/Biology/Economics at Senior High School
• A good grade in General Paper/English at Senior High School Level (for ESPP students only)

NUS High School Diploma:

• Major CAP of 2.0 in Mathematics AND
• Major CAP of 2.0 in Physics/Chemistry/Biology
• Good Overall CAP in English Language (for ESPP students only)

Please visit us on the web to learn which polytechnic diplomas are eligible for our programme.

Contact us for more detailed information about admissions:
ase_undergrad@ntu.edu.sg
REAL-WORLD EXPERIENCE

Our undergraduate programmes emphasize on gaining real-world experience:

- Students participate in a 2 weeks introductory field course in Bali after their first year of study
- Advanced students have opportunities to participate in longer field courses abroad
- Courses include interactive tutorials and labs for students to gain real-world skills
- Courses focus on teaching skills like speaking, writing, working in groups and leadership
- Students can study abroad for one or two semesters at a university of their choice
- Students have opportunities to conduct an independent final-year research project in collaboration with a faculty advisor or conduct a professional internship with attachment with local or overseas employers
- Faculty will work individually with students on career counseling – developing career goals, refining their resumes, and making connections with potential employers

UNDERGRADUATE SCHOLARSHIPS

Applicants will be assessed for the Nanyang Scholarship, CN Yang Scholars Programme, College Scholarship, or other relevant scholarship programmes during their selection interview for admission into the major programme.

The Nanyang Scholarship and CN Yang Scholars Programme recognizes students who excel academically, demonstrate strong leadership potential, and possess outstanding co-curricular records.
MEET OUR STUDENTS!

**FELICIA, GOH MIN HUI, Raffles Institution**

“I have found a challenging, yet supportive and inspiring atmosphere to learn in the Asian School of the Environment. We are taught through practical experiences in fieldwork and dealing with real-life data. Our passionate and caring faculty and teaching assistants equip us with practical skills and multiple perspectives to approach complex environmental issues that are intertwined with lives and livelihoods. The culture of sharing in our small cohort completes our journey in pursuit of a fuller appreciation of our beautiful Earth.”

**EUNICE TAN, Anderson Junior College**

“Joining the Asian School of the Environment has been a rewarding journey thus far. It has challenged my perceptions of many issues, some of which I used to take for granted. At the same time, I’ve been continuously pushed out of my comfort zone through the many field trips we’ve had. Each of these field trips never fail to leave me more amazed and intrigued about this unique planet we have. Additionally, the close-knit family of undergraduates, faculty, graduate students and staff members of ASE are a great blessing to have through these years. The undergraduate family is ever-ready to help ad encourage one another; be it in academics or any other issues. Our friendly faculty, graduate students, and staff are ever ready to help us in any clarifications we need. Their open door policy within the office encourages us to approach them whenever we have questions or need a listening ear. I am confident that as ASE progresses, it will be well known for its quality education and approachable faculty and staff.”
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