

NUS offers meteorology and climate science minor to build up local expertise

A new minor in meteorology and climate science will be offered at the National University of Singapore (NUS) to pave the way for more weather and climate scientists here.

The course – which is the first of its kind here – will give an introduction to the complex field of weather and climate, said NUS and the Meteorological Service Singapore (MSS).

Additional postgraduate training is needed for those who want to become meteorologists and climate scientists.

The course will be useful for students who are looking to become sustainability consultants, renewable energy experts and coastal protection engineers, for instance.

Fresh graduates in these professions will need basic understanding of weather systems and climate science, so that they can link the facts and science to develop successful climate mitigation and

adaptation measures, said NUS and MSS.

The minor – under the science faculty's department of physics – will be open to all students in the NUS College of Humanities and Sciences. Its start date has not yet been determined.

Singapore currently relies heavily on experts from abroad to fill the growing number of climate science vacancies here, this minor will help groom local talent in this field, said NUS on its website.

Many of MSS' meteorologists have degrees in the physical sciences, mathematics or engineering, with postgraduate training in meteorology conducted by MSS' partners such as Australia's Bureau of Meteorology.

Specialisation in climate research would also be done at a postgraduate level, said NUS and MSS, which is under the National Environment Agency (NEA).

To help undergraduates gain ex-

posure to the work of meteorologists and climate scientists, MSS' Centre for Climate Research Singapore is offering internships.

The centre also co-supervises postgraduates and projects to help students understand the tropical weather systems and processes affecting Singapore.

On Wednesday, the centre will conduct a talk at NUS that will cover the weather and climate change challenges for South-east Asia, the centre's weather prediction work, and the key roles of weather and climate scientists.

Students will get to speak to several NUS alumni working as scientists in MSS.

Climate science is based on the laws of physics and chemistry – such as the composition of gases and production of aerosols – and how they interact to form clouds, for example, said NUS on its website.

The minor programme will com-

prise three essential and two elective modules. The essential modules include mathematical methods in physics 1, and weather and climate fundamentals. Elective modules include numerical methods for meteorology and remote sensing.

MSS and NEA added that climate centres also look for expertise in software engineering and data science, such as artificial intelligence, since climate science is a form of “big data” science.

Ms Yvonne Zhang, sustainability and climate director at Deloitte South-east Asia, said: “I applaud the course's emphasis on quantification and logic, as reflected by the heavy mathematics components in the essential modules.

“Our current big issue in addressing climate change lies in the ‘how much’ and ‘when’. We are well beyond the ‘why’ and ‘what’ problem statements now.”

NUS said local investments in fur-

thering climate science research have increased the demand for graduates and postgraduates who possess a detailed understanding of the physical processes and interactions of the climate.

Singapore last week announced that it is considering setting 2050 as the year to have its greenhouse gas emissions reach net zero.

While temperatures and sea levels are rising, questions remain about how these changes and impacts will be seen in Singapore and South-east Asia.

Since rainfall is variable in a region, more data is needed to tease out climate change's impact on rainfall here.

Planning for the effects of climate change and decarbonisation efforts will also unlock more green jobs. It was announced in 2020 that 55,000 vacancies are expected to be created here within this decade.

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