

Clean Energy

“From a small base today, the clean energy sector here is growing rapidly, thanks to several government initiatives and the declining cost of technology. We anticipate significant demand for qualified personnel in the clean energy industry over the next few decades.”

Christophe Inglin
Managing Director
Energetix Pte Ltd
Deputy Chairman
Sustainable Energy Association of Singapore (SEAS)



Urban solutions and sustainability have increasingly become important economic pillars of Singapore. Clean Energy is an important part of these global megatrends, which are expected to create 20,000 new jobs by 2020. Therefore, the career opportunities in engineering consultation and sustainable urban solutions will continue to grow rapidly, giving you excellent future prospects.

This course will equip you with the knowledge and skills in four key technology areas, namely, electricity & power systems, renewable energy, energy efficiency and green transportation.

You will also be able to sharpen your skills with a wide range of exciting state-of-the-art learning facilities in our campus, such as our Smart Energy Training Systems, our Clean Energy Research Centre, and a solar photovoltaic “LIVE” Laboratory. These will not only enhance your learning experiences, but also ensure that you are competent and ready to work in the industry upon graduation.

With your diploma, you will also be eligible to apply for the Associate Singapore Certified Energy Manager (ASCEM) accreditation programme, an industry-recognised certification that will give you a career advantage.

In this course, you will get to take part in a wide range of vibrant and enriching activities such as leadership camps, the Youth Energy Showcase, Energy Connect seminars, sports activities, and social or community events. You will also have opportunities to gain global exposure through internship programmes at overseas institutions such as the University of New South Wales in Australia and Southwest Jiaotong University in China.

If you are passionate about the environment, you can participate in meaningful Overseas Community Projects in countries such as Thailand, Laos and Cambodia where you get to apply what you have learnt about solar technology, to design and install solar-powered LED lighting to light up the lives of locals there.

Career Opportunities

As part of Singapore's Smart Nation initiative, the government has implemented a sustainable development plan to transform our country into a global Urban Solution Living Laboratory. Some of the measures include the 'SolarNova Programme' to install solar panels on the roofs of 5,500 HDB blocks by 2020, the 'Green Mark Programme' to 'green' 80 percent of Singapore's buildings by 2030, the enactment of the Energy Conservation Act to regulate sustainable energy management, a carbon tax to reduce greenhouse gas emission and the liberalisation of the retail electricity market in 2018 to increase competition.

All these mean that you will have bright prospects as there will be a great demand for engineering consultants. There will be exciting and fulfilling career opportunities in the electricity and energy services, decarbonisation as well as energy efficient air-conditioning and green manufacturing sectors. You can be a project engineer, design engineer, facility engineer, system engineer, R&D engineer, industrial engineer, equipment engineer, public service officer (energy planning, green transportation, environmental management), energy auditor, energy consultant, associate energy manager or even a green entrepreneur.

If you would like to ride on global urbanisation megatrend, manage future smart and green cities and have a passion for saving Gaia, you are the right person to join this course!

Graduation Requirements

Cumulative Grade Point Average : min 1.0
TP Fundamentals Subjects : 36 credit units
Diploma Core Subjects : 93 credit units
Total Credit Units Completed: min 129 credit units

Application

Apply during the Joint Admissions Exercise following the release of the GCE O Level results. For other categories of local applicants, please refer to the section on "Admission and Requirements". For international students, please refer to the section on "Information for International Students".

Entry Requirements for Singapore-Cambridge GCE O Level Qualification Holders

To be eligible for consideration for admission, applicants must obtain 26 points or better for the net ELR2B2 aggregate score (i.e. English Language, 2 relevant subjects and best 2 other subjects, including CCA Bonus Points) and meet the minimum entry requirements of this course. CCA cannot be used to meet the minimum entry requirements.

For details on GCE O Level Minimum Entry Requirements, refer to page 125.

Note: Applicants should not be suffering from severe colour vision deficiency, uncontrolled epilepsy, profound hearing loss or severe vision impairment.

Course Structure

TP FUNDAMENTALS (TPFun) SUBJECTS				
SUBJECT CODE	SUBJECT	LEVEL	CREDIT UNITS	
ECS1005	Communication & Information Literacy	1	2	
ECS1006	Workplace Communication	1	2	
ECS1007	Persuasive Communication	1	2	
EGS1002	Global Studies	1	3	
EGS1003	Managing Diversity at Work*	1	3	
EGS1004	Global Citizenship & Community Development*	1	3	
EGS1005	Expressions of Culture*	1	3	
EIN1001	Innovation & Entrepreneurship	1	2	
GCC1001	Current Issues & Critical Thinking	1	2	
LEA1011	Leadership: Essential Attributes & Practice 1	1	1	
LEA1012	Leadership: Essential Attributes & Practice 2	1	1	
LEA1013	Leadership: Essential Attributes & Practice 3	1	1	
LSW1002	Sports & Wellness	1	2	
MCR1001	Career Readiness 1	1	1	
MCR1002	Career Readiness 2	1	1	
MCR1003	Career Readiness 3	1	1	
TGL1001	Guided Learning	1	3	
ESI3001	Student Internship Programme	3	12	

* Students must choose one of these three subjects or TGL1001 Guided Learning.

DIPLOMA SUBJECTS – CORE SUBJECTS

SUBJECT CODE	SUBJECT	LEVEL	CREDIT UNITS
EED1001	Electronic Prototyping	1	3
EEE1001	Circuit Analysis	1	6
EEE1002	Electronic Devices & Circuits	1	6
EEE1003	Digital Fundamentals 1	1	5
EEE1004	Digital Fundamentals 2	1	5
EER1001	Electrical Services for Facilities	1	4
EMA1002	Engineering Mathematics 2	1	4
EMA1003	Engineering Mathematics 1	1	4
ESC1004	Engineering Physics	1	3
ESE1006	Computer Programming for Problem Solving	1	4
ESE1007	Engineering Analytics	1	3
ECE2007	Fuel Cell & Energy Storage Systems	2	4
ECE2008	Solar Cell & System	2	4
EER2001	Electrical Systems & Power Distribution	2	4
EGB2002	Air Conditioning & Mechanical Ventilation	2	4
EMA2003	Engineering Mathematics 3	2	4
EMC2001	Microcontroller Technology	2	5
EBM3005	Energy Management & Audit	3	4
ECE3005	Industrial Sustainability & Energy Efficiency	3	3
ECT3004	Efficient Drive & Control Systems	3	3
EER3002	Electrical Diagnostics & System Integration	3	3
EMP3002	Major Project	3	8

DIPLOMA SUBJECTS – SPECIAL ELECTIVES

You can opt to take Special Electives when offered. These optional subjects will stretch your potential and help you to meet your aspirations.

SUBJECT CODE	SUBJECT	LEVEL	CREDIT UNITS
EED3009	Special Project 1	3	2
EED3010	Special Project 2	3	2
EED3011	Higher Engineering Skills 1	3	2
EED3012	Higher Engineering Skills 2	3	2
EMA3001	Higher Engineering Mathematics	3	4