

Green Building & Sustainability



"The re-launching of this course to emphasise today's green initiatives and the worldwide push to make buildings more environment-friendly is definitely a step in the right direction. We are confident that this course will produce the necessary skilled manpower for this emerging industry with great potential."

Tan Tian Chong
Director, Technology Development
Building & Construction Authority

"Going Green" is today's catch phrase, reflecting the growing worldwide concern for the environment. A green building is one that is designed to reduce its impact on mankind and the environment. Despite rapid urbanisation, we must ensure that our future is safe and healthy for everyone – in other words, there must be sustainability.

New buildings – both commercial as well as residential – now come with not just automated high-tech gadgets, but also energy-saving features. This focus on environment-friendly buildings is not just a local industry trend; it is part of a global push by governments worldwide to create an environmentally sustainable infrastructure that will support the emerging lifestyles of a new generation of people with higher expectations of how they live, work, and play.

This course will equip you with the knowledge of green building architecture, technologies and practices, including passive and sustainable design, energy auditing and building management. Subjects such as Total Building Performance and Energy Audit and Measurements will give you the fundamental knowledge of good green building practices and designs. You will also be trained in the use of industry software for architectural drawings and building performance simulations.

In addition to the diploma, graduates from this course will be awarded the Associate Singapore Certified Energy Manager (ASCEM) certificate which is jointly administered by the National Environment Agency (NEA) and the Institution of Engineers, Singapore (IES). The demand for ASCEM professionals has increased greatly with the need for energy conservation in every building and it is the most sought after certification for people who wish to pursue a career in the energy conservation industry.

Career Opportunities

With the launch of the Building & Construction Authority's "Green Mark" rating system to evaluate a building's environmental friendliness, building and property owners are now striving to adopt green building technologies and the best practices in environmental design and construction.

Green buildings currently make up more than 35 percent of buildings in Singapore, but come 2030, that figure is targeted to reach 80 percent of all buildings, driven by government funding to "green" all existing buildings. This alone gives an indication of the amount of retrofitting that will need to be done to buildings in our country, creating abundant job opportunities and demand for green building professionals. At the same time, new buildings coming on-stream need to incorporate green features and technology as well, adding to the demand.

You can look forward to careers in the energy market, sustainable design or building design industries, and find exciting job opportunities as an energy or green building consultant, an eco-city planner or designer, a green marketing executive or an environmentally sustainable design (ESD) engineer.

You can also further your qualifications in the fields of sustainable design and architectural-related programmes.

Graduation Requirements

Cumulative Grade Point Average : min 1.0

TP Fundamentals Subjects : 36 credit units

Diploma Core Subjects : 92 credit units

Total Credit Units Completed : min 128 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 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
EBD1004	Virtual Design & Facility Planning	1	3
EEE1001	Circuit Analysis	1	6
EER1001	Electrical Services for Facilities	1	4
EGB1001	Introduction to Green Development	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
EBD2009	Building Information Modelling Collaboration	2	3
EBM2004	Project Management	2	4
EBM2005	Fire & Life Safety Management	2	4
EBM2006	Building Management Systems	2	5
EGB2002	Air Conditioning & Mechanical Ventilation	2	4
EGB2003	Hydraulics & Drives	2	4
EGB2004	Tropical Architecture for Sustainability	2	4
EGB2005	Green Building Modelling & Simulation	2	5
EBM3005	Energy Management & Audit	3	4
EFM3001	Sustainable Facility Management	3	4
EGB3003	Total Building Performance	3	4
EGB3004	Sustainable Design	3	4
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