



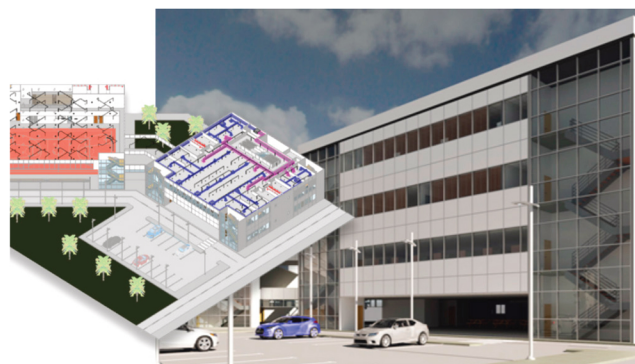
# Architectural Technology & Building Services

## Overview

Technology and digitalisation offer us increasing control over a building's design and thereby its performance, enabling us to make the built environment more adaptable to combat climate change and environmental degradation.

This is the first polytechnic course based on integrated inter-disciplinary and multi-disciplinary learning in digitally designing high-performance buildings using technology such as Building Information Modelling (BIM) for virtual design, software simulations for performance evaluation and automation (smart) systems for efficient management. You will also get to experience how technology is used in sustainable architecture and systems design, for today's digital economy.

In short, the course will equip you with the necessary multi-disciplinary skill sets to design and manage smart and sustainable buildings for tomorrow's cityscape.



## Career Opportunities

As a sustainable movement, the Singapore Green Plan 2030 targets 80% of the built environment to be "green" in the next 10 years. This includes the development of eco-friendly districts, super-low energy buildings and carbon neutral schools on a large scale. You can hence look forward to dynamic green-collared design-engineering based careers in architectural technology and building systems engineering based firms such as:

- 3D Digital-BIM Modellers (Architecture and M&E)
- Architectural Assistants
- Building Automation Technologists
- Energy & Sustainability Consultants
- Engineering Assistants (Mechanical & Electrical)
- Simulation Specialists (Building Performance)

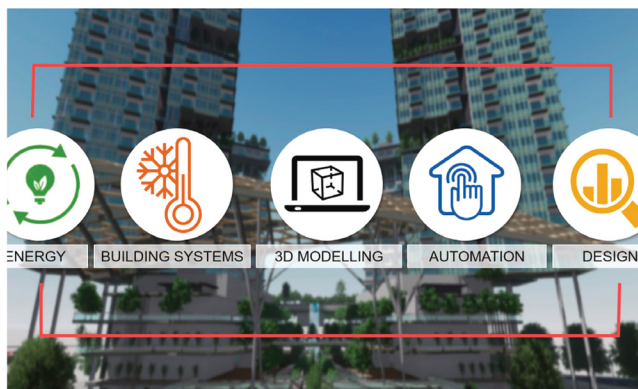
## Entry Requirements

5 GCE 'O' Level subjects comprising:

English Language (EL1)	(Grades 1-7)
Mathematics (E or A Maths)	(Grades 1-6)
One of the following subjects *	(Grades 1-6)
Any two other subjects (except CCA)	--

\* *Biology, Biotechnology, Chemistry, Combined Science, Computing / Computer Studies, Design & Technology, Electronics / Fundamentals of Electronics, Physics / Engineering Science, Science (Chemistry, Biology), Science (Physics, Biology), Science (Physics, Chemistry) / Physical Science.*

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



## Diploma Core Subjects

### Year 1:

- Circuit Analysis
- Computer Programming for Problem Solving
- Digital Modelling for Architecture 1
- Eco-Architecture Design 1
- Electrical Design & Installation
- Engineering Mathematics 1 & 2
- Engineering Physics
- Introduction to Built Environment

### Year 2:

- Air-Conditioning & Mechanical Ventilation
- Building Management Systems
- Building Performance Modelling
- Building Systems Modelling
- Digital Modelling for Architecture 2
- Eco-Architecture Design 2
- Energy Management & Audit
- Integrated Design Studio

### Year 3:

- Data Visualisation & Analytics
- Fire & Life Safety Management
- Major Project

## Further Studies

You can gain admission into a wide range of degree programmes at local and overseas universities such as those in USA, UK, Australia and New Zealand. Advance standing for specific modules or up to 2 years exemption may be given depending on the relevance of the degree programme.

You may also pursue a Work-Study Programme (WSP) with us to deepen your relevant skill-sets, while working full-time.

## Success Stories



**Anson Low**, who joined Temasek Polytechnic via the Poly Foundation Programme (PFP), chose this course as he believed it would allow him to do his bit to fight climate change and make a difference to the world.

Soon enough, he found the opportunity amidst challenges posed by the COVID-19 pandemic. For his final year project, Anson along with his teammates, staff, and researchers from the Clean Energy Research Centre (CERC), developed a smart system to disinfect lifts automatically using UV-C light that activates periodically when nobody is inside the lift. If sensors detect a person entering the lift, the light, which is harmful for human beings, is automatically shut off.

The project won funding to be developed as a prototype and has been trail led by town councils. Reflecting on the success of his project, Anson said: "I'm extremely excited that my idea has become a reality, it does feel surreal!".

With the help of dedicated lecturers, Anson graduated in 2021 with a cumulative Grade Point Average (cGPA) of 3.98, winning the Course Gold Medal and numerous scholarships.



## Core Strengths



This course is the most established local programme in building technology and sustainability, and TP was the first polytechnic to offer this specialisation. The curriculum is built upon the strong foundation of our predecessor courses, the Diploma in Intelligent Building Technology (since 1995), which was subsequently revamped as the Diploma in Green Building & Sustainability in 2010.

The course focuses on 3 unique fields aligned to Singapore's industry transformation map (2018):

**Digital Architecture** - You will acquire specialised software skills in virtual design such as Building Information Modelling (BIM) and bioclimatic simulations to conceptualise designs by predicting building performance.

**Energy Management** - You will develop skills-sets in Mechanical & Electrical systems coupled with automation technology for data analytics to ensure energy efficiency and smart building management.

**Sustainability** - In line with the Singapore Green Plan 2030, you will envision buildings that address issues on the nation's sustainable development agenda, such as climate change, carbon emissions and environmental degradation.

Our lecturers are former professionals such as architects, facilities engineers, mechanical, electrical & structural specialists, and building project managers - all experts in their respective fields and skilled in green technologies - so you get experienced guidance and the most up-to-date curriculum.

## Student Life & Facilities

Your life on campus will be varied and vibrant. Sporting competitions, artistic pursuits, adventure learning programmes, team building games, student club gatherings, as well as the annual Campus Care Network Day carnival when students and staff join forces to raise funds, are some of the many colourful and exciting activities that will pepper your life as a student.

Located in a picturesque environment that is close to nature, the campus provides you with the ideal setting for work, play and recreation.



Always at the forefront of technology, the School emphasises innovation, creativity, problem-based learning and a practical, hands-on approach. With a wide range of modern and well-equipped facilities, and a rigorous and industry-relevant curriculum, we are well positioned to prepare you for a bright future.

### Enquiries:

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## School of Engineering

*The information in this brochure is accurate at the time of printing  
For the latest information, please refer to our website  
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