engineering

SINGAPORE INSTITUTE OF TECHNOLOGY

SingaporeTech.edu.sg

2018

Singapore Institute of Technology

DigiPen Institute of Technology Singapore

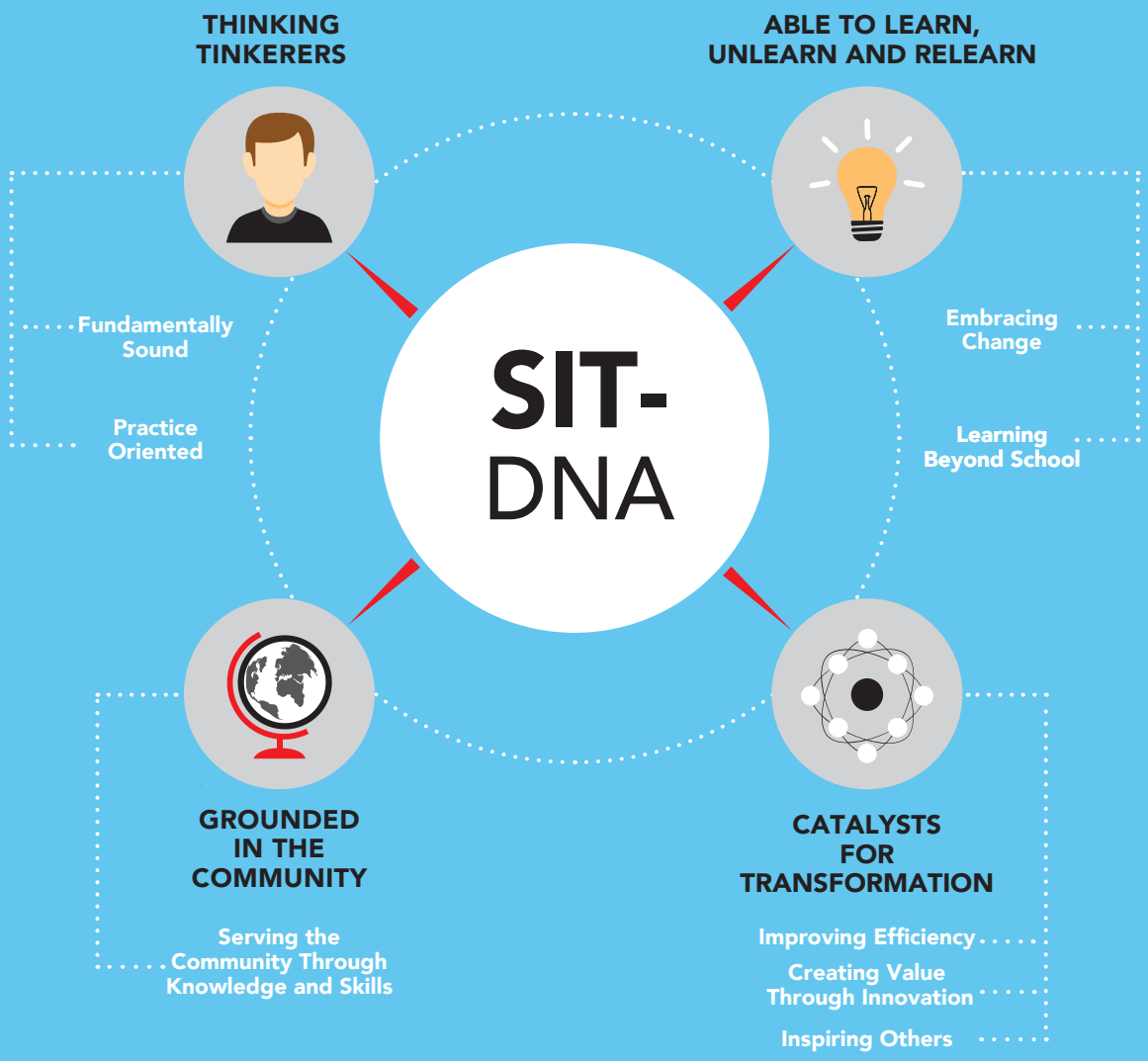
Newcastle University

Technical University of Munich

University of Glasgow

CONTENTS

ABOUT SIT



Singapore Institute of Technology (SIT) is Singapore's university of applied learning. SIT upholds the vision of being a leader in innovative learning by integrating learning, industry and community.

Our mission is to nurture and develop individuals who build on their interests and talents to impact society in meaningful ways. The university also aims to cultivate in its students four distinctive traits, or the SIT-DNA, which will prepare them to be 'Thinking Tinkerers', 'Able to Learn, Unlearn and Relearn', 'Catalysts for Transformation' and 'Grounded in the Community'.

The university's applied degree programmes offer you a chance to experience a unique pedagogy that integrates work and study. SIT's degree programmes feature a six- to 12-month Integrated Work Study Programme (IWSP) which exemplifies the best of university-industry collaboration.

WHY PURSUE ENGINEERING AT SIT?

APPLIED LEARNING PEDAGOGY

Learning at SIT is reinforced through laboratory sessions, flipped classrooms, gamifications and sharing sessions by experienced industry players. With the technical skills and knowledge attained, students will apply what they learn to actual work situations via the Integrated Work Study Programme (IWSP).

SYMBIOTIC RELATIONSHIP WITH INDUSTRY

Our engineering programmes at SIT have been developed through extensive consultation with industry, thus creating a curriculum that supports industry's needs in manpower development and innovation.

SPECIALIST AND TRANSFERABLE SKILLS

Students are trained to become deep specialists in their respective engineering disciplines. Skill sets including critical problem-solving, decision-making, project management and communication skills, acquired in both the classroom and industry are transferable across industries as they are highly valued by employers everywhere.

CAREER PROGRESSION OPPORTUNITIES

With strong signals from the government to grow the pool of engineers[1], an engineering-based education at SIT will enhance the adaptability and employability of our engineering graduates, as they gear up to contribute to the 'future-proofing' of Singapore's economy.

Reference:
[1] Chong, ZL. Engineering Matters for Singapore's Future, Says PM Lee Hsien Loong. The Straits Times. (2016 Jul 2). Available from: http://www.straitstimes.com/politics/engineering-key-to-singapores-future-as-smart-nation-pm.

"Our programmes and the faculty behind them will assist you in building a solid foundation in engineering, which is your launch pad to a successful career and beginning of your lifelong learning."

Associate Professor Lee Kwee Hiong
Cluster Director
Engineering
Singapore Institute of Technology

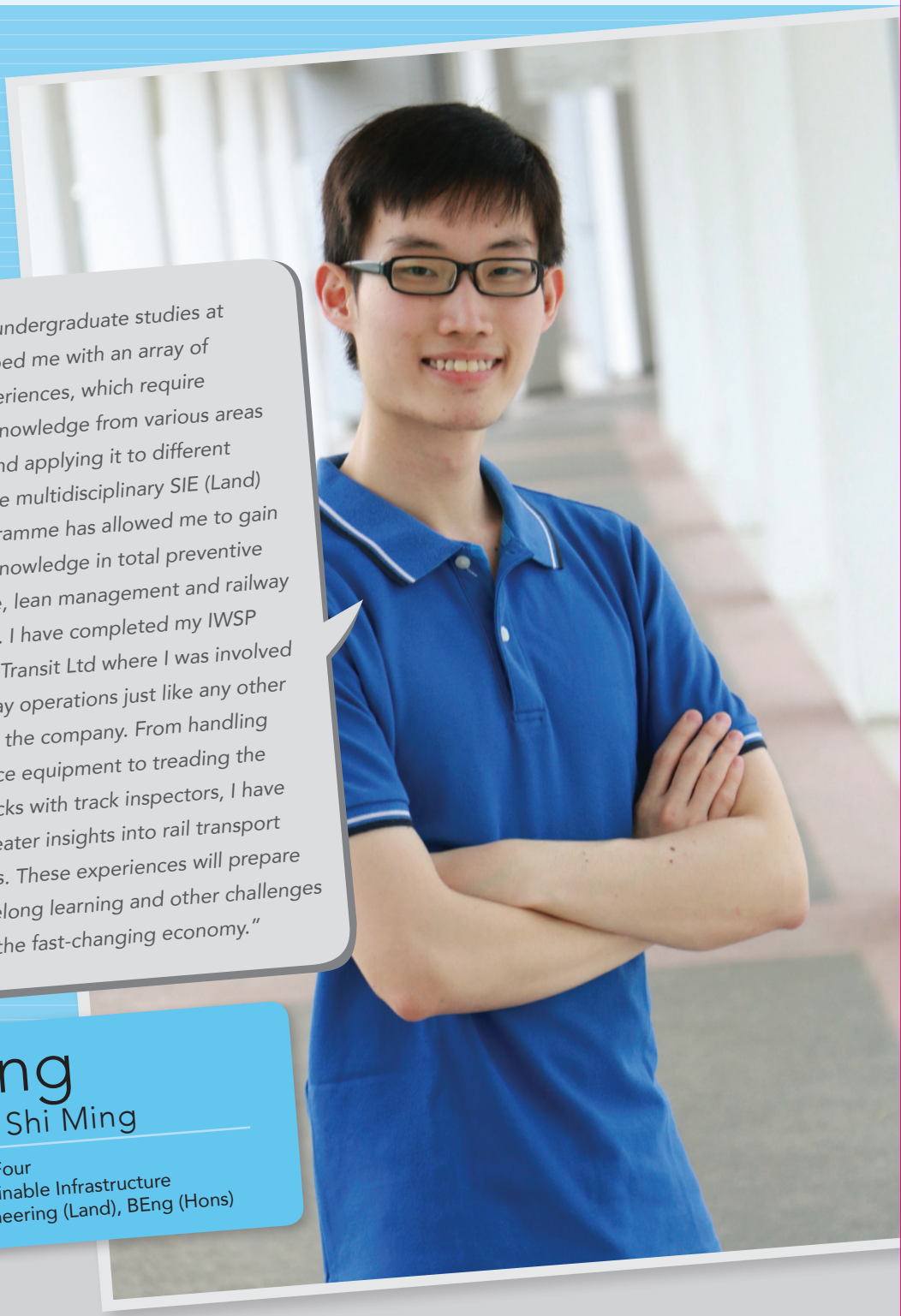
HEAR WHAT OUR STUDENTS SAY

"My journey with SIT has been amazing so far. The professors are highly skilled and approachable, and ever willing to guide us and offer advice whenever we face difficulties in school. I am excited at the prospect of gaining a foothold into the industry through the networking sessions and apply what I have learnt from school in the workplace during the 12-month IWSP. Through the knowledge imparted from professors and experiences gained in SIT, I am confident to make a mark in the industry."

Eyrica
Lee Min Wei

Year Three
Systems Engineering
(ElectroMechanical Systems),
BEng (Hons)

HEAR WHAT OUR STUDENTS SAY



"Pursuing my undergraduate studies at SIT has equipped me with an array of hands-on experiences, which require synthesising knowledge from various areas of learning, and applying it to different situations. The multidisciplinary SIE (Land) degree programme has allowed me to gain specialised knowledge in total preventive maintenance, lean management and railway engineering. I have completed my IWSP stint at SBS Transit Ltd where I was involved in day-to-day operations just like any other engineer in the company. From handling maintenance equipment to treading the railway tracks with track inspectors, I have gained greater insights into rail transport operations. These experiences will prepare me for lifelong learning and other challenges ahead in the fast-changing economy."

Ong
Shi Ming

Year Four
Sustainable Infrastructure
Engineering (Land), BEng (Hons)

HEAR WHAT THE INDUSTRY SAYS

"Dedicated to a job well done, the students have proven themselves to be industrious with the right focus on their jobs. With an exuberant outlook, they have integrated well into our organisation and contributed in ways big and small. Their innate strength to excel at the workplace is evident in their diverse roles and we are proud to have them on our team!"

Ms Joycelin Ang

Assistant HR Manager
Pacific Division
American Bureau of
Shipping (ABS)

"The IWSP is a privileged opportunity for students to be exposed to the dynamic operations and challenges in SMRT. Not only do SIT students possess a positive attitude and enthusiasm to learn, they are also able to integrate theory and practice to come up with innovative suggestions to value add to the workplace."

Ms Pang Shi Yun

Deputy Director
Human Capital Management
SMRT Corporation Ltd

"Quality Engineers in Lead Frame Operations are expected to deal with many different situations. Some situations may require simple fixes while others may be more ambiguous and complex. The SIT Engineering graduates in our team have shown their expertise and professionalism in dealing with these situations. They are passionate in their work and continue to learn and apply knowledge acquired relentlessly to the job."

Mr Frankie Wong

Senior QA Manager
ASM Technology
Singapore Pte Ltd

"Through regular engagements with industry partners, SIT has successfully created the Integrated Work Study Programme. We are confident that this would be a fruitful platform for the industry to gain bright talents from the institution. This programme is also highly beneficial for the interns who will have a clear perspective prior to entering the industry. We are excited to embark on this programme with SIT and look forward to welcoming future interns for a mutually rewarding experience."

Mr Yong Derong

Executive Director
Woh Hup (Private) Limited

AIRCRAFT SYSTEMS ENGINEERING

PROGRAMME INFORMATION

DEGREE PROGRAMME
- BEng (Hons)

CAMPUS LOCATION
- SIT@Dover

ELIGIBILITY
- Relevant Polytechnic Diploma Holders
- A Level/IB Diploma/NUS High School Diploma Holders

FEATURES
- Eight-month Integrated Work Study Programme (IWSP)
- Overseas Exposure Programme (OEP)

Visit SingaporeTech.edu.sg for the list of relevant qualifications.

The Aircraft Systems Engineering programme is developed in collaboration with SIA Engineering Company (SIAEC), which provides extensive Maintenance, Repair and Overhaul (MRO) services to more than 80 international airlines worldwide. Built on an interdisciplinary curriculum that intersects engineering, science and a practical hands-on approach, the focus of the programme is to produce graduates who are both theoretically grounded and practice-oriented for the aerospace and MRO industries. The curriculum will also incorporate an intensive eight-month Integrated Work Study Programme (IWSP) at SIAEC.

In addition to a degree awarded by SIT, successful graduates from this programme will also be awarded a Certificate of Recognition (CoR) by SIAEC. This CoR is recognised by the Civil Aviation Authority of Singapore (CAAS) and certifies that the holder has completed a SAR-147 Approved Basic Course. Graduates who decide to embark on a career as a Licensed Aircraft Engineer (LAE) with a MRO in Singapore will be able to acquire their Aircraft Maintenance License (AML) in a shorter time as compared to their peers.

PROGRAMME HIGHLIGHTS

Industry-Relevant Curriculum Co-Developed with SIAEC'S Training Academy (TAD)

Certificate of Recognition (CoR) by SIAEC

Overseas Exposure Programme (OEP) to Original Equipment Manufacturers (OEM) such as Boeing in Seattle and AirBus in Toulouse

SINGAPORE INSTITUTE OF TECHNOLOGY

AIRCRAFT SYSTEMS ENGINEERING

CURRICULUM STRUCTURE

YEAR 1

TRIMESTER 1	• Engineering Mathematics I • Physics: Motion Dynamics • Mechanics of Engineering Materials • Electrical Circuits • Electrical Devices
TRIMESTER 2	• Engineering Mathematics II • Physics: Waves, Optics and Thermodynamics • Electronic Circuits • Digital Electronic Instrumentation Systems Aircraft Materials • Introduction to Aeronautics
TRIMESTER 3	• Engineering Mathematics III • Fluid Mechanics • Heat Transfer • Aerodynamics • Flight Mechanics • Engineering Design Graphics

YEAR 2

TRIMESTER 1	• Aircraft Maintenance Overseas Exposure Programme (OEP)
TRIMESTER 2	• Aircraft Structures • Flight Performance • Fixed Wing Systems I • Aircraft Avionic Systems • Technical Writing and Effective Communication
TRIMESTER 3	• Group Design Project • Aircraft Electrical and Cabin Systems • Human Factors • Fixed Wing Systems II • Aircraft Propulsion I

AIRCRAFT SYSTEMS ENGINEERING

YEAR 3

TRIMESTER 1	• Aviation Legislation • Aircraft Propulsion II • Computer Programming Language • Introduction to Financial Accounting • Project Management
TRIMESTER 2	Integrated Work Study Programme (IWSP)
TRIMESTER 3	

Contents are subject to review and update.

PROFESSIONAL CERTIFICATIONS

Students will be trained to complete the **SAR-66 basic theory** and practical modules certified by the Civil Aviation Authority of Singapore (CAAS).

CAREER OPPORTUNITIES

- Licensed Aircraft Engineer
- Process, Quality and Product Engineer
- Maintenance Planner
- Fleet Manager
- Technical Service/Repair Development Engineer

SINGAPORE INSTITUTE OF TECHNOLOGY

SUSTAINABLE INFRASTRUCTURE ENGINEERING (BUILDING SERVICES)

PROGRAMME INFORMATION

DEGREE PROGRAMMES
- BEng (Hons)
- MEngTech

CAMPUS LOCATIONS
- SIT@Dover
- SIT@SP Building

ELIGIBILITY
- Polytechnic Diploma Holders
- A Level/IB Diploma/NUS High School Diploma Holders

FEATURES
- 12-month Integrated Work Study Programme (IWSP)

Visit SingaporeTech.edu.sg for the list of relevant qualifications.

Developed in consultation with the Building and Construction Authority (BCA) Singapore, the Sustainable Infrastructure Engineering (SIE) (Building Services) programme encompasses all the necessary engineering disciplines that are required for the building services engineering industries in Singapore.

Students will be groomed to be both practice-oriented and industry-ready in the areas of Efficient Energy Management, Heating, Ventilation and Air Conditioning (HVAC), Indoor Environmental Quality, Human Health and Comfort, Sustainable Building Engineering, Fire Management and Engineering, and Building Information Modelling (BIM). They will also have the opportunity to obtain professional certifications in Green Mark, Fire Services Safety Management, as well as Workplace Safety and Health, which are in line with the government's initiatives on clean energy and safety at the workplace.

Students have the option to graduate with a BEng (Hons) (based on six trimesters of study and three trimesters of IWSP) and/or a MEngTech (based on two trimesters of study). Graduates with the MEngTech qualification will be eligible for future registration as a Professional Engineer (PE) (Singapore) or Chartered Engineer (UK and Commonwealth countries). The PE registration is essential for engineers to design mechanical and electrical systems and practice in the building services engineering industries in Singapore.

PROGRAMME HIGHLIGHTS

Heating, Ventilating and Air Conditioning (HVAC)

Building Information Modelling (BIM)

Sustainable Building Engineering

Fire Management and Engineering

SUSTAINABLE INFRASTRUCTURE ENGINEERING (BUILDING SERVICES)

CURRICULUM STRUCTURE

The programme will produce:

- Engineers who are specialised in HVAC, Sustainable Building Engineering and BIM.
- Green Mark certified engineers.
- Engineers who meet the industry standard in Fire Services Management and Workplace Safety and Health.
- Specialists with knowledge in energy optimisation, project management, change management, construction management and systems engineering (at the MEngTech level).

YEAR 1	TRIMESTER 1	• Mechanics of Engineering Materials • Engineering Mathematics I • C Programming • Measurements and Sensor Technology • Effective Communication
	TRIMESTER 2	• Dynamics of Machines • Engineering Mathematics IIA • Heat Exchanger and Heat Pump • Engineering Drawing for Building Services • Materials Selection for Engineering Structure
	TRIMESTER 3	Break
YEAR 2	TRIMESTER 1	• Engineering Mathematics IIB • Fluid Mechanics • Electrical Systems • Sustainable Building Engineering • Mechanics of Solids
	TRIMESTER 2	• Engineering Mathematics III • Land Transport Discovery • Building Physics • BIM for Mechanical, Electrical, and Plumbing Design Studio • HVAC I • Career and Professional Development
	TRIMESTER 3	• HVAC II • Building Energy Simulations and Assessment • Facility Management using BIM • Building Services Engineering Discovery • Group Design Project I

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SUSTAINABLE INFRASTRUCTURE ENGINEERING (BUILDING SERVICES)

YEAR 3

TRIMESTER 1	Integrated Work Study Programme (IWSP)
TRIMESTER 2	
TRIMESTER 3	

YEAR 4

TRIMESTER 1	• Fire Engineering Fundamentals • Fire Safety Management • Automation and Control in Building • Work Place Safety and Health • Group Design Project II
TRIMESTER 2	• Capstone Project I • Construction Management using BIM • Project Management • Acoustic Engineering • Manufacturing Technology
TRIMESTER 3	• Capstone Project II (Continue from I) • Indoor Environmental Quality • Change Management • Lighting Technology for Building Services • Structure Vibration and Control

PROFESSIONAL CERTIFICATIONS

GREEN MARK CERTIFICATION
The Green Mark certification will be required for all buildings in Singapore by 2020, implying a need for well-qualified engineers for building examination and authorisation.

CONSTRUCTION SAFETY COURSE FOR PROJECT MANAGERS (CSCPM)
Students will be trained in the skill sets required for the Construction Safety Course for Project Managers (CSCPM) by the Ministry of Manpower (MOM). They will also learn how to plan and implement occupational health programmes as well as risk management programmes for construction sites including incident reporting and accident investigations.

FIRE SAFETY SPECIALIST COURSE
The Fire Safety Specialist Course by the Singapore Civil Defence Force Academy is designed to train selected personnel in the technical areas of fire safety, and execution of processing and building inspection works. Students will learn the principles of various fire protection systems and the procedures for fire safety inspections.

SUSTAINABLE INFRASTRUCTURE ENGINEERING (BUILDING SERVICES)

REGIONAL IMMERSION IN SUSTAINABLE ENGINEERING (RISE)

RISE is a unique programme which aims to enrich students' learning experiences. Participants get to visit key infrastructure facilities and projects in the region as well as gain first-hand experience communicating with engineers, designers and operators who are working on various phases of a project such as those in design and construction.

CAREER OPPORTUNITIES

Design Engineer (with focus on HVAC or other relevant MEP areas)

BIM Manager

Facility Manager

Sustainable Building Consultant

Building Construction (MEP) Engineer

SINGAPORE INSTITUTE OF TECHNOLOGY

SUSTAINABLE INFRASTRUCTURE ENGINEERING (LAND)

PROGRAMME INFORMATION

DEGREE PROGRAMMES
- BEng (Hons)
- MEngTech

CAMPUS LOCATIONS
- SIT@Dover
- SIT@SP Building

ELIGIBILITY
- Polytechnic Diploma Holders
- A Level/IB Diploma/NUS High School Diploma Holders

FEATURES
- 12-month Integrated Work Study Programme (IWSP)

Visit SingaporeTech.edu.sg for the list of relevant qualifications.

The Sustainable Infrastructure Engineering (SIE) (Land) programme is a multidisciplinary degree programme encompassing several fundamental engineering disciplines.

Students will go through rigorous academic training and have the opportunity to immerse themselves in the land transport industry through work stints with established organisations such as LTA, SMRT, SBS Transit, Singapore Technologies and Sembcorp Industries.

With the aim to groom students to be both practice-oriented and industry-ready, exclusive modules such as Railway Engineering and Total Preventive Maintenance will be taught over the course of the programme. In addition, the unique curriculum will enable students to attain professional Non-Destructive Testing (NDT) certification for inspection methods, which is highly sought-after in the industry.

Students have the option to either graduate with a BEng (Hons) (based on six trimesters of study and three trimesters of IWSP) or a MEngTech (based on eight trimesters of study and three trimesters of IWSP).

PROGRAMME HIGHLIGHTS

Railway Engineering

Total Preventive Maintenance (TPM)

CURRICULUM STRUCTURE

YEAR 1

TRIMESTER 1	• Mechanics of Engineering Materials • Engineering Mathematics I • C Programming • Measurements and Sensor Technology • Effective Communication
TRIMESTER 2	• Dynamics of Machines • Engineering Mathematics IIA • Heat Exchanger and Heat Pump • Engineering Design Graphics • Materials Selection for Engineering Structure
TRIMESTER 3	Break

SUSTAINABLE INFRASTRUCTURE ENGINEERING (LAND)

YEAR 2	TRIMESTER 1	• Engineering Mathematics IIB • Fluid Machineries • Engineering Electronics and Instrumentation • NDT I • Mechanics of Solids
	TRIMESTER 2	• Engineering Mathematics III • Land Transport Discovery+ • Marine Transport Discovery+ • Aerospace Engineering Discovery+ • Career and Professional Development
	TRIMESTER 3	• Railway Signalling and Communications • Rolling Stock and Permanent Way Systems • NDT II • Total Preventive Maintenance • Lean and Quick Response Repair • Design Project I (e.g. Underground System Design)
YEAR 3	TRIMESTER 1	Integrated Work Study Programme (IWSP)
	TRIMESTER 2	
	TRIMESTER 3	
YEAR 4	TRIMESTER 1	• Railway Supervisory Control and Data Acquisition • Safety Standards/Legislation/Best Practices • Statistical Process Control • Remanufacturing of Engineering Components • Design Project II (e.g. High Speed Train Design)
	TRIMESTER 2	• Capstone Project • NDT III • High Performance Alloys • Project Management • Manufacturing Technology
	TRIMESTER 3	• Capstone Project • Change Management • Systems Engineering • Electrical Power and Propulsion • Structure Vibration and Control

+ Supplemented by lab work (four labs for each discovery module). These modules aim to provide an introduction to the performance of various engineering concepts/devices (land, sea, air) and their maintenance and services needs.

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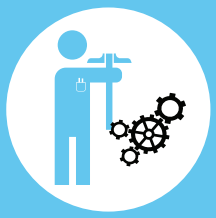
SUSTAINABLE INFRASTRUCTURE ENGINEERING (LAND)

REGIONAL IMMERSION IN SUSTAINABLE ENGINEERING (RISE)



RISE is a unique programme which aims to enrich students' learning experiences. Participants get to visit key infrastructure facilities and projects in the region as well as gain first-hand experience communicating with engineers, designers and operators who are working on various phases of a project such as those in design and construction.

CAREER OPPORTUNITIES

Graduates can look forward to careers in various land transport organisations such as:

- LTA
- SMRT
- SBS Transit
- Sembcorp Industries
- Singapore Technologies

SUSTAINABLE INFRASTRUCTURE ENGINEERING (BUILDING SERVICES) AND (LAND)

INDUSTRY ADVISORY COMMITTEE

The members of the Industry Advisory Committee for the Sustainable Infrastructure Engineering (Building Services) and (Land) programmes are:

Mr TAN Cheng Guan (Chairperson)
Executive Vice President and Head
Group Business Development and Commercial
Sembcorp Industries Ltd

Mr ANG Kian Seng
Group Director
Technology Development
Building Construction Authority

Dr Samuel CHAN Wai
Director of Systems
Systems and Rail Assets Group
Land Transport Authority

Dr KOH Yong Khiang
Vice President/Chief Engineer
Engineering Analysis
Singapore Technologies Kinetics Ltd

Mr LEONG Yim Sing
Senior Vice President
Rail Engineering
SBS Transit Ltd

Mr LOOI Teik Soon
Dean
LTA Academy
Land Transport Authority

Mr LOW Loke Kiong (Vincent)
Vice President and Business Development Director
G-Energy Global Pte Ltd

Mr Vincent TAN Peng Hock
Senior Vice President
Corporate Services and Rail Operations
SMRT Corporation Ltd

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TELEMATICS (INTELLIGENT TRANSPORTATION SYSTEMS ENGINEERING)

PROGRAMME INFORMATION

DEGREE PROGRAMMES
- BEng (Hons)
- MEngTech

CAMPUS LOCATION
- SIT@Dover

ELIGIBILITY
- Polytechnic Diploma Holders
- A Level/IB Diploma/NUS High School Diploma Holders

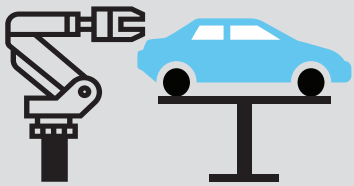
FEATURES
- Eight-month Integrated Work Study Programme (IWSP)

Visit SingaporeTech.edu.sg for the list of relevant qualifications.

The Telematics (Intelligent Transportation Systems Engineering) programme is the first-of-its-kind in Singapore, consisting of two interdisciplinary fields – Vehicular Telematics and Intelligent Transportation Systems (ITS) Engineering. With an emphasis placed on the enhancement of our public transport systems, ITS will be the mainstay for managing and optimising the limited road space in Singapore. Vehicles of tomorrow will be capable of communicating with nearby vehicles wirelessly and sharing useful information on their surroundings. The primary driver for such connected vehicles and inter-vehicle co-operative application is the enhancement of safety for both motorists and pedestrians, which includes telematics and vehicular communication technologies such as advanced driver assistance applications to alert motorists on road safety, dynamic routing, intelligent parking guidance and real-time traffic news delivery, amongst others.

Developed with support from organisations such as LTA, ST Electronics, NCS and Continental Automotive, students in this programme will be exposed to the latest transportation technologies, applications and solutions. They will also be equipped with electrical engineering and computer science core skills in ITS engineering, vehicular communication and telematics technologies in order to work in this technically challenging field. Students have the option to either graduate with a BEng (Hons) (based on six trimesters of study and two trimesters of IWSP) or a MEngTech degree (based on eight trimesters and two trimesters of IWSP) which have a strong emphasis on ITS and automotive engineering.

PROGRAMME HIGHLIGHTS



Industrial Immersion Programme (IIP) - Visits to Telematics, Automotive Engineering or ITS Companies in Singapore and Overseas

Participation in Trend Antenna Programme by Continental Automotive Singapore Pte Ltd

TELEMATICS (INTELLIGENT TRANSPORTATION SYSTEMS ENGINEERING)

CURRICULUM STRUCTURE

YEAR 1

TRIMESTER 1	• Engineering Mathematics I • Newtonian Mechanics and Waves • Electronic Circuits • Introduction to Programming • Technical Communication I
TRIMESTER 2	• Engineering Mathematics II • Electricity and Magnetism • Digital Systems • Object Oriented Programming • Linear Signals and Systems
TRIMESTER 3	Break

YEAR 2

TRIMESTER 1	• Sensors and Control • Embedded System Design • Instrumentation and Displays • Database and Information Systems • Career Professional Development
TRIMESTER 2	• Wireless Communications • RF Engineering and Electromagnetic Compatibility • Operating Systems and Automotive OS • Internet Programming • Technical Communication II
TRIMESTER 3	Integrated Work Study Programme (IWSP)

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TELEMATICS (INTELLIGENT TRANSPORTATION SYSTEMS ENGINEERING)

YEAR 3

TRIMESTER 1	Integrated Work Study Programme (IWSP)
TRIMESTER 2	• Group Design Project • Traffic Regulations, Safety and Standards • Traffic Signal and Toll Systems • Systems and Software Engineering • Digital Signal Processing • Business and Project Management
TRIMESTER 3	• Group Design Project • Transport Management • Infotainment Technologies • Automotive Electronics • Car Interconnects and Vehicular Networks • Professional Ethics and Engineers in Society

YEAR 4

(MEngTech)

TRIMESTER 1	• Capstone Project • Transport Models and Simulation • ITS Mobility and Services • ITS Location Based Services • Green Car Technologies
TRIMESTER 2	• Capstone Project • ITS Architectures and Systems • GIS and Navigation • Road Safety Technologies • Self-Driving Vehicles
TRIMESTER 3	GRADUATE

CAREER OPPORTUNITIES

- Engineer (Design/Application/ Network/Telematics/ Technology Integration)
- Software Engineer
- Engineer (Intelligent Transportation Systems)
- Project Manager/ Officer/ Engineer

TELEMATICS (INTELLIGENT TRANSPORTATION SYSTEMS ENGINEERING)

INDUSTRY ADVISORY COMMITTEE

The members of the Industry Advisory Committee for this programme are:

Mr ANG Kim Siah
Senior Vice President
ST Electronics (Info-Comm Systems)

Dr CHIN Kian Keong
Chief Engineer
Land Transport Authority

Mr LO Kien Foh
Managing Director
Continental Automotive Singapore Pte Ltd

Mr SING Mong Kee
Director
Keespires Consultancy

SINGAPORE INSTITUTE OF TECHNOLOGY

DigiPen INSTITUTE OF TECHNOLOGY SINGAPORE

SYSTEMS ENGINEERING (ELECTROMECHANICAL SYSTEMS)

PROGRAMME INFORMATION

DEGREE PROGRAMME
- BEng (Hons)

CAMPUS LOCATIONS
- SIT@Dover
- SIT@SP Building

ELIGIBILITY
- Polytechnic Diploma Holders
- A Level/IB Diploma/NUS High School Diploma Holders

FEATURES
- Eight- to 12-month Integrated Work Study Programme (IWSP)
- Four-month Overseas Immersion Programme (OIP)

Visit SingaporeTech.edu.sg for the list of relevant qualifications.

The Bachelor of Engineering with Honours in Systems Engineering (ElectroMechanical Systems), also known as SEEMS, is a multidisciplinary degree programme that brings together the fields of mechanical, electrical, electronic and computer engineering with a holistic approach to system development. Systems engineering focusses on the design, development, implementation and life-cycle management of complex interconnected systems. The SEEMS programme specifically focusses on the engineering of complex mechanical systems that are controlled by microprocessors and microcontrollers.

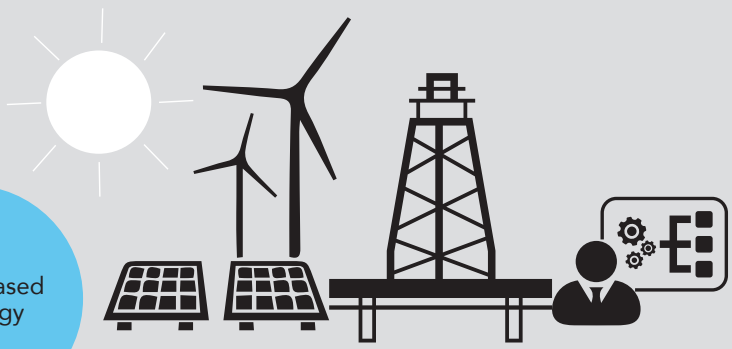
Graduates of this programme will understand the larger context of hardware and software engineering, and be able to solve complex problems through an integrated and multidisciplinary approach.

SEEMS is a joint degree programme offered by Singapore Institute of Technology (SIT) and DigiPen Institute of Technology Singapore, [DigiPen (Singapore)].

PROGRAMME HIGHLIGHTS

Integration of Different Sub-Disciplines of Engineering

Project-Based Pedagogy



SYSTEMS ENGINEERING (ELECTROMECHANICAL SYSTEMS)

CURRICULUM STRUCTURE

YEAR 1

TRIMESTER 1	• Computer Environment • Calculus and Analytic Geometry 1 • Computer Aided Design • Engineering Fabrication • C Programming • Composition
TRIMESTER 2	• Systems Engineering Project 1 • Calculus and Analytic Geometry 2 • Digital Electronics 1 • C++ Programming • Systems and Software Engineering • Interpersonal and Work Communication
TRIMESTER 3	Break

YEAR 2

TRIMESTER 1	• Systems Engineering Project 2 • Calculus and Analytic Geometry 3 • Motion Dynamics • Embedded Microcontroller Systems • Systems and Project Management
TRIMESTER 2	• Systems Engineering Project 3 • Waves, Optics and Thermodynamics • Electric Circuits • ElectroMechanical Design • Requirements Engineering and Systems Architecture • Career Planning and Development
TRIMESTER 3	Overseas Immersion Programme (OIP) • Linear Algebra • Differential Equations • Electricity and Magnetism • Digital Electronics 2 • Advanced C/C++

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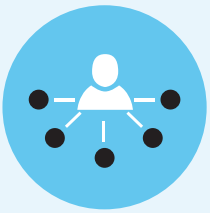
SYSTEMS ENGINEERING (ELECTROMECHANICAL SYSTEMS)

YEAR 3	TRIMESTER 1	Break
	TRIMESTER 2	Integrated Work Study Programme (IWSP)
	TRIMESTER 3	Integrated Work Study Programme (IWSP) • The Engineer and Society
YEAR 4	TRIMESTER 1	• Capstone Project 1 • Discrete Mathematics • Control Systems • Data Structures • Systems Design and Analysis • Systems Modelling and Simulation
	TRIMESTER 2	• Capstone Project 2 • Robotics • Risk and Decision Analysis • Systems Integration, Verification and Validation • Large Scale Systems
	TRIMESTER 3	GRADUATE

CAREER OPPORTUNITIES

Systems Engineer



Project Engineer

Mechatronics Engineer

Design Engineer

Software Engineer

SYSTEMS ENGINEERING (ELECTROMECHANICAL SYSTEMS)

INDUSTRY ADVISORY COMMITTEE

The members of the Industry Advisory Committee for this programme are:

Mr Sudesh K KRISHNAMOORTHY
Rational Brand Architect
IBM Software
ASEAN IBM

Mr Simon KUIK Sow Hong
Vice President/Head
Research and Development
Sembcorp Marine Ltd

Mr OH Sin Hin
Senior Manager
Systems Assurance and Integration Division
Land Transport Authority

Dr TOK Eng Soon
Department of Physics
National University of Singapore

Dr Victor WONG
Head, Facilities Management Biopolis
Agency for Science Technology and Research

ELECTRICAL POWER ENGINEERING

PROGRAMME INFORMATION

DEGREE PROGRAMME
- BEng (Hons)

CAMPUS LOCATION
- SIT@NYP Building

ELIGIBILITY
- Polytechnic Diploma Holders
- A Level/IB Diploma/NUS High School Diploma Holders

FEATURES
- Six-month Integrated Work Study Programme (IWSP)
- Three-week Overseas Immersion Programme (OIP)

Visit SingaporeTech.edu.sg for the list of relevant qualifications.

The Electrical Power Engineering (EPE) programme is a three-year honours degree jointly offered by SIT and Newcastle University (NU). As the first locally offered, dedicated electrical power engineering undergraduate programme, the curriculum is specially customised to meet industry demand in Singapore. It will play an important role in increasing the number of graduates to address the workforce demand in the power sector while fulfilling the country's vision of becoming a Smart Nation. As a joint programme, it will leverage on the expertise and resources of both SIT and NU.

Graduates from this programme are needed in diverse sectors including electrical power generation, electrical power transmission and distribution, renewable energy, smart grid, land transportation, power and automation, oil and gas, and liquefied natural gas. Through a rigorous curriculum with strong industry focus, graduates will be theoretically-grounded and practice-oriented. This will equip them with the necessary technical competence, tools and personal skills that will enable them to continue to develop their understanding, expertise and professionalism as they progress through their career. Having a solid foundation will also facilitate lifelong learning as they embark on their engineering career.

PROGRAMME HIGHLIGHTS

- Electrical Power Generation
- Electrical Machines and Drives
- High Voltage Technology
- Electrical Power Transmission and Distribution
- Power Electronics
- Renewable Energy

ELECTRICAL POWER ENGINEERING

CURRICULUM STRUCTURE

YEAR 1

- Circuit Theory
- Electronics
- Electricity and Magnetism
- Signals and Communications
- C Programming
- Engineering Mathematics I
- Engineering Mathematics II
- Technical Writing and Effective Communication

YEAR 2

- Automatic Control
- Electrical Systems
- Analogue Electronics
- Computer Systems and Microprocessors
- Digital Electronics
- Electromagnetic Fields and Waves
- Signals and Systems
- Project and Career Professional Development
- Accounting, Finance and Law for Engineers

Overseas Immersion Programme (OIP)
Integrated Work Study Programme (IWSP)

YEAR 3

Integrated Work Study Programme (IWSP)

- State Space Analysis and Controller Design
- Electrical Machines and Generators
- Power Electronics
- Generation Transmission and Distribution
- Renewable Energy Systems
- High Voltage Technology
- Capstone Project

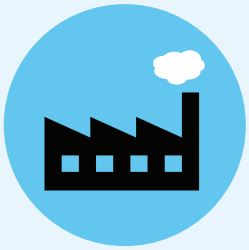
SINGAPORE INSTITUTE OF TECHNOLOGY

Newcastle University
UK | Malaysia | Singapore

ELECTRICAL POWER ENGINEERING

CAREER OPPORTUNITIES

Graduates can look forward to careers in these areas:



Electrical Power Generation, Transmission and Distribution Industries

Utilities Companies

Transport Industries

Electrical Equipment Industries

Oil and Gas Industries

Consultancy Companies

Research and Development

• MARINE ENGINEERING
• NAVAL ARCHITECTURE
• OFFSHORE ENGINEERING

PROGRAMME INFORMATION

DEGREE PROGRAMME
- BEng (Hons)

CAMPUS LOCATIONS
- SIT@Dover
- SIT@NP Building

ELIGIBILITY
- Polytechnic Diploma Holders
- A Level/IB Diploma/NUS High School Diploma Holders

FEATURES
- 26-week Integrated Work Study Programme (IWSP)
- Three-week Overseas Immersion Programme (OIP)

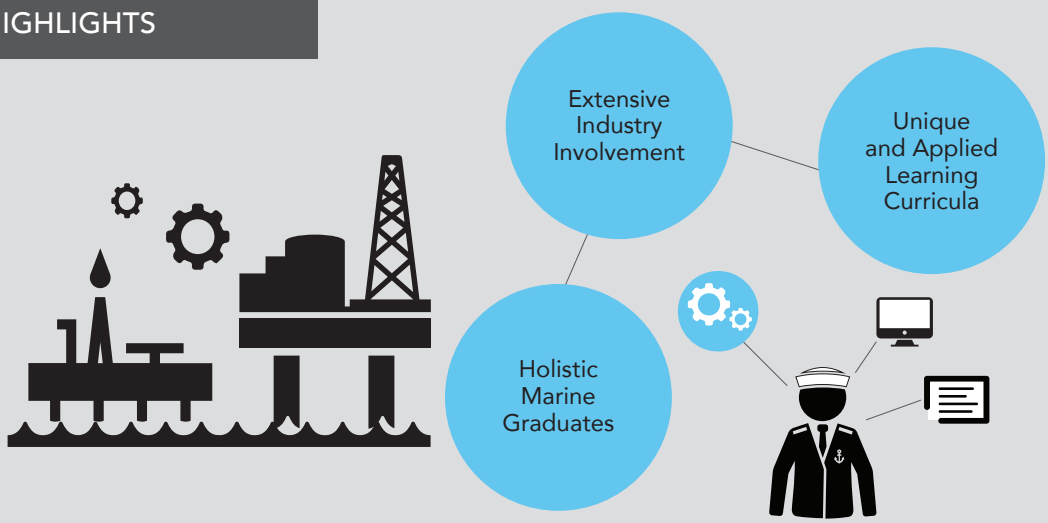
Visit SingaporeTech.edu.sg for the list of relevant qualifications.

The Marine programmes, jointly offered by SIT and Newcastle University, are three-year direct honours degrees in various marine and offshore technology disciplines. Well-grounded with fundamentals in marine and offshore technology, students will hone their critical and analytical skills to be practice-oriented and industry-ready in one of these specialisations – Marine Engineering, Naval Architecture or Offshore Engineering.

Students will go through rigorous academic training and immerse themselves in the marine industry through the Integrated Work Study Programme (IWSP) with leading marine and offshore engineering organisations such as Keppel O&M Ltd, Sembcorp Marine Ltd, Singapore Technologies Marine Ltd and Wärtsilä Singapore Pte Ltd.

Students will be able to take up modules which are exclusive to these joint degree programmes such as marine classifications, which cover the rules and regulations applied during the design, production and maintenance phases of marine vessels and offshore platforms. Naval Architecture and Offshore Engineering students will learn about the engineering behind the design, structure, operation and management of ships and offshore structures. Marine Engineering students will be exposed to marine engineering systems, from the main propulsion engines to auxiliary machinery like power generators, pumps, heat exchangers and other machinery of pneumatic or hydraulic systems.

PROGRAMME HIGHLIGHTS



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- MARINE ENGINEERING
- NAVAL ARCHITECTURE
- OFFSHORE ENGINEERING

CURRICULUM STRUCTURE

YEAR 1

- Materials in the Marine Environment
- Marine Mechanics IA
- Engineering Mathematics
- Marine Engineering IA
- Naval Architecture IA
- Electrical Engineering
- Marine Mechanics IB
- Engineering Mathematics and Statistics
- Marine Engineering IB
- Naval Architecture IB

YEAR 2

- Analytical Methods in Marine Technology
- Marine Engineering IIA
- Marine Structures IA
- Ship Resistance
- Introduction to Business Management
- Naval Architecture II
- Marine and Offshore Production Management
- Marine Engineering IIB
- Marine Structures IB
- Marine Propulsion

Marine Engineering	Naval Architecture	Offshore Engineering
• Marine Electrical Engineering	• Marine Dynamics	• Marine Dynamics

- Marine Transport Business#
- Drilling Engineering#

Overseas Immersion Programme (OIP)

Integrated Work Study Programme (IWSP)

#This module will be conducted over seven weeks.

• MARINE ENGINEERING
• NAVAL ARCHITECTURE
• OFFSHORE ENGINEERING

YEAR 3

Integrated Work Study Programme (IWSP) • Capstone Project and Report		
Marine Engineering • Marine Engineering Design	**Naval Architecture** • Ship Design	**Offshore Engineering** • Offshore Engineering Design
• Marine Engineering III	• Marine Structures II	• Marine Structures II
• Internal Combustion Engines	• Advanced Ship and Offshore Hydrodynamics	• Advanced Ship and Offshore Hydrodynamics
• Dynamic Modelling and Simulation	• Advanced Resistance and Propulsion	• Subsea and Pipeline Engineering

CAREER OPPORTUNITIES

Graduates can look forward to careers in:

- Shipbuilding and Rigbuilding Yards
- Classification Societies
- Republic of Singapore Navy
- Oil and Gas Companies
- Consultancy and Design Companies
- Maritime Port Authority
- Shipping Companies
- Marine and Offshore Original Equipment Manufacturers (OEM)
- Manufacturers or Suppliers
- Ship Brokering and Chartering Companies
- Renewable Energy Companies
- Statutory Boards

MECHANICAL DESIGN AND MANUFACTURING ENGINEERING

PROGRAMME INFORMATION

DEGREE PROGRAMME
- BEng (Hons)

CAMPUS LOCATION
- SIT@NYP Building

ELIGIBILITY
- Polytechnic Diploma Holders
- A Level/IB Diploma/NUS High School Diploma Holders

FEATURES
- 26-week Integrated Work Study Programme (IWSP)
- Three-week Overseas Immersion Programme (OIP)

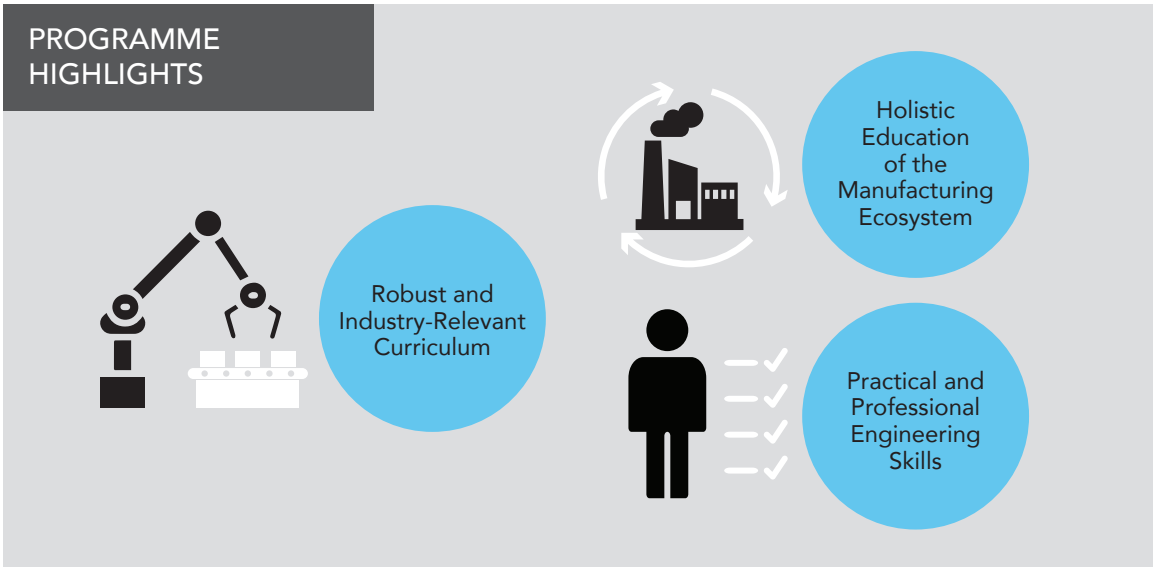
Visit SingaporeTech.edu.sg for the list of relevant qualifications.

The Mechanical Design and Manufacturing Engineering (MDME) degree programme is a three-year honours programme jointly offered by SIT and Newcastle University (NU). Through a unique and interdisciplinary curriculum that combines essential knowledge from mechanical design, mechatronics and manufacturing, the programme is designed to meet the manpower needs of local engineering and manufacturing industries.

Students will learn about fundamental principles in mechanical engineering including statics, dynamics, materials, solid and fluid mechanics, control, thermodynamics, and heat transfer. Following these fundamentals, they will then be exposed to a curriculum that promotes process improvement and innovation in manufacturing as a specialisation including topics on manufacturing technology, industrial automation, lean manufacturing, statistical process control, factory operations and production management. Students will learn to work independently, as well as in groups to collaboratively meet and exceed engineering project objectives.

Within the duration of the course, students will undertake the Integrated Work Study Programme (IWSP) at local engineering companies to apply the knowledge gained from the course, accumulate valuable work experience, and network with industry stalwarts. As part of the IWSP curriculum, students will also work on engineering design and productivity projects which may be carried through to their studies as Capstone Projects in the penultimate year of the programme. To further add value and provide relevant practical skills, students will have the opportunity to pursue the Six Sigma professional certification. MDME graduates will be practice-oriented and work-ready to develop solutions for the engineering sector and enhance processes in the manufacturing industry.

PROGRAMME HIGHLIGHTS



MECHANICAL DESIGN AND MANUFACTURING ENGINEERING

CURRICULUM STRUCTURE

YEAR 1

- Engineering Mathematics I
- Engineering Mathematics II
- Engineering Statics
- Mechanics of Materials
- Materials for Engineers
- Fundamentals of Thermofluids
- Programming
- Circuits and Digital Electronics
- Fabrication and Prototyping Practices
- Concurrent Design and Manufacturing

YEAR 2

- Engineering Dynamics
- Control of Dynamic Systems
- Design of Mechanical Systems
- Electro-Mechanical Systems Technology
- Real-Time Embedded Systems
- Applications of Thermofluids
- Developments in Materials and Processes
- Materials and Manufacturing
- Lean Manufacturing and Six Sigma
- Engineering Economics and Project Management
- Finance, Law and Standards for Engineers
- Technical Writing and Effective Communication
- Career and Professional Development

Overseas Immersion Programme (OIP)
Integrated Work Study Programme (IWSP)

SINGAPORE INSTITUTE OF TECHNOLOGY

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MECHANICAL DESIGN AND MANUFACTURING ENGINEERING

YEAR 3

Integrated Work Study Programme (IWSP)

- Engineering Systems Modelling and Simulation
- Mechatronics Systems
- Robotics
- Industrial Automation
- Manufacturing Systems Management
- Capstone Project

CAREER OPPORTUNITIES

Graduates can look forward to careers in:

Engineer (Mechanical/ Mechatronics/ Manufacturing/ Design/QA/R&D)

Professional Officer/ Consultant in Commercial and Public Sectors

Engineering Project Manager

CIVIL ENGINEERING

PROGRAMME INFORMATION

DEGREE PROGRAMMES
- BEng (Hons) – Jointly offered by SIT and the University of Glasgow (UofG)
- MEngTech

CAMPUS LOCATION
- SIT@Dover

ELIGIBILITY
- Polytechnic Diploma Holders
- A Level/IB Diploma/NUS High School Diploma Holders

FEATURES
- Eight-month Integrated Work Study Programme (IWSP)
- Three-week Overseas Immersion Programme (OIP)

Visit SingaporeTech.edu.sg for the list of relevant qualifications.

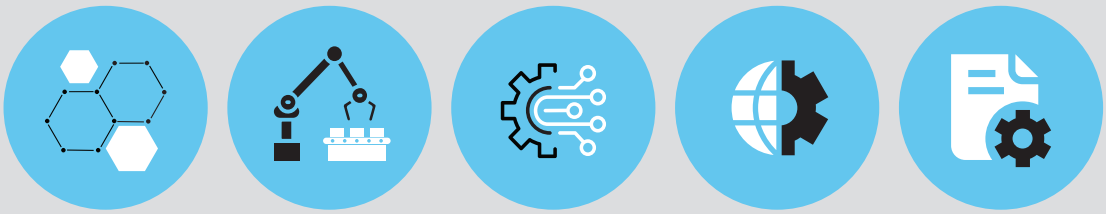
The Bachelor Degree with Honours in Civil Engineering programme is jointly offered by SIT and the University of Glasgow (UofG). This programme will play an important role in addressing the lack of local graduate manpower with the necessary civil engineering professional qualifications for the building and construction industry in the face of sustained building and infrastructure development.

Through a heavy emphasis on project-based learning and industrial immersion, this programme aims to produce industry-ready graduates who are equipped with a high level of technical expertise to address multidisciplinary challenges, provide technically sound, economically feasible and sustainable solutions to complex problems.

Upon successful completion of their BEng (Hons), students may continue with the Master of Engineering Technology in Civil Engineering graduate degree that will qualify them to sit for the professional examination, conducted by the Professional Engineers Board of Singapore. They may take the exam immediately, or finish the BEng (Hons) first and gain some relevant working experience before coming back to pursue the MEngTech degree later. In this way, they can study at a pace that best suits their individual needs and abilities. Strong emphasis is placed on the industrial relevance in the curriculum development of the BEng (Hons) and MEngTech programmes in consultation with government agencies and companies from the construction sector.

Students will acquire deep specialist training at the MEngTech level which consists of five compulsory core modules and five selected modules taught at an advanced graduate level depending on the area of specialisation in Structural Engineering, Geotechnical Engineering or Rail Engineering.

PROGRAMME HIGHLIGHTS



Structural Design

Construction Technology

Building Information Modelling (BIM) for Civil Engineers

Design Project/Overseas Immersion Programme at Glasgow

Capstone Project

SINGAPORE INSTITUTE OF TECHNOLOGY

University of Glasgow

CIVIL ENGINEERING

CURRICULUM STRUCTURE

YEAR 1

TRIMESTER 1	• Civil Engineering and Sustainable Built Environment • Engineering Physics • Engineering Mathematics I • Civil Engineering Skills • Statics and Structural Mechanics
TRIMESTER 2	• Graphical Communication • Effective Communication • Engineering Mathematics II • Fluid Mechanics • Civil Engineering Materials • Engineering Geology and Soil Mechanics
TRIMESTER 3	Break

YEAR 2

TRIMESTER 1	• Engineering Mathematics III • Hydraulics and Hydrology • Structural Analysis I • Geotechnical Engineering • BIM for Civil Engineers
TRIMESTER 2	• Transportation Engineering • Environmental Engineering • Structural Analysis II • Structural Design • Professional Communication and Development
TRIMESTER 3	• Foundation Engineering • Construction Technology • Design of Steel and Concrete Structures • Seminar and Site Visit • Design Project/Overseas Immersion Programme (OIP) at Glasgow

CIVIL ENGINEERING

YEAR 3

TRIMESTER 1	Integrated Work Study Programme (IWSP)
TRIMESTER 2	Integrated Work Study Programme (IWSP)
TRIMESTER 3	• Project Planning and Management • Civil Engineering Practices • Ground Engineering • Rail Engineering • Capstone Project

YEAR 4

(MEngTech)^

TRIMESTER 1	• Practice of Professional Engineering • Structural Stability and Dynamics • Advanced Design of Concrete and Precast Structures • Advanced Material Technology • Computational Modelling of Complex Soil-Structure Problems		
TRIMESTER 2 Three modules from a specialisation track and choose two specialisation modules or a MEngTech dissertation.	**Structural Engineering** • Wind and Earthquake Engineering • Tall Buildings • Advanced Design of Steel and Composite Structures	**Geotechnical Engineering** • Advanced Foundation Engineering • Advanced Ground Engineering • Earth Retaining and Stabilising Structures	**Rail Engineering** • Advanced Rail Engineering I – Planning and Design • Advanced Rail Engineering II – Operations and Maintenance • Risk and Safety Management of Rail Infrastructures

^The MEngTech graduate degree is solely awarded by SIT.
Note: The BEng (Hons) Civil Engineering programme is jointly offered by SIT and University of Glasgow (UofG).

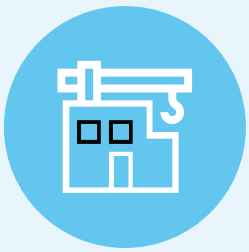
SINGAPORE INSTITUTE OF TECHNOLOGY

University of Glasgow

CIVIL ENGINEERING

CAREER OPPORTUNITIES

Graduates of this accredited professional degree programme* will meet the academic requirements for professional registration with the Professional Engineers Board. They can look forward to careers in:



Building and Construction

Engineering Design Consultancy Firms

Facility Operators

Government Agencies

Property Developers

*The programme is currently seeking accreditation from EAB Singapore.
Note: The BEng (Hons) Civil Engineering programme is jointly offered by SIT and University of Glasgow (UofG).

ADMISSION REQUIREMENTS

SIT adopts a holistic approach in assessing applicants for admission by considering the following criteria.

ONE OF THE QUALIFICATIONS LISTED BELOW:

- Full-time Diploma from one of the five local polytechnics*
- GCE A Level
- International Baccalaureate Diploma (IB)
- NUS High School Diploma
- Other International Qualifications

PASSION	PERSONAL QUALITIES	RELEVANT WORK EXPERIENCE/ INTERNSHIPS	CO-CURRICULA INTERESTS

INTERVIEW PERFORMANCE

All shortlisted applicants will be assessed through interviews. For specific degree programmes, applicants may have to submit portfolios or essays, or be assessed through written tests.

* SIT accepts applications from polytechnic graduates who did not sit for their GCE O Level examination and have come through other forms of secondary education such as the Polytechnic Foundation Programme and ITE (NITEC and Higher NITEC).

ADMISSION REQUIREMENTS

DEGREE PROGRAMME	FULL-TIME POLYTECHNIC DIPLOMA FROM SINGAPORE	GCE A LEVEL	INTERNATIONAL BACCALAUREATE DIPLOMA (IB)	NUS HIGH SCHOOL DIPLOMA	OTHER INTERNATIONAL QUALIFICATIONS
Aircraft Systems Engineering	Completed a relevant^ full-time local polytechnic Diploma. Subject to approval, diploma applicants may be granted module exemptions, based on the modules taken during their diploma.	Obtained passes in at least two A/H2 Level subjects and offered General Paper (GP) or Knowledge & Inquiry (KI) in the same sitting while satisfying the Mother Tongue (MTL) requirements.	Obtained a minimum grade five for at least two Higher Level (HL) and one Standard Level (SL) subjects and the IB Diploma while satisfying the Mother Tongue (MTL) requirements.	Obtained the NUS High School Diploma while satisfying the Mother Tongue (MTL) requirements.	Completed at least 12 years of formal education deemed as acceptable, equivalent qualifications to be considered for admission.
Sustainable Infrastructure Engineering (Building Services), BEng (Hons)*	Completed a full-time local polytechnic Diploma. Applicants with relevant engineering background, i.e. Diploma in Aerospace, Mechanical, Mechatronics, Civil, Environmental and Electrical Engineering, may apply for exemption from modules of up to a maximum of two trimesters. For applicants with non-relevant engineering background, i.e. Diploma from other engineering disciplines, exemption from modules will be considered on a case-by-case basis.	Obtained passes in at least two A/H2 Level subjects and offered General Paper (GP) or Knowledge & Inquiry (KI) in the same sitting while satisfying the Mother Tongue (MTL) requirements.	Obtained a minimum grade five for at least two Higher Level (HL) and one Standard Level (SL) subjects and the IB Diploma while satisfying the Mother Tongue (MTL) requirements.	Obtained the NUS High School Diploma while satisfying the Mother Tongue (MTL) requirements.	Completed at least 12 years of formal education deemed as acceptable, equivalent qualifications to be considered for admission. BCA diploma holders in Mechanical Engineering (Green Building Technology) may apply.

DEGREE PROGRAMME	FULL-TIME POLYTECHNIC DIPLOMA FROM SINGAPORE	GCE A LEVEL	INTERNATIONAL BACCALAUREATE DIPLOMA (IB)	NUS HIGH SCHOOL DIPLOMA	OTHER INTERNATIONAL QUALIFICATIONS
Sustainable Infrastructure Engineering (Land), BEng (Hons)*	Completed a full-time local polytechnic Diploma. Applicants with relevant engineering background, i.e. Diploma in Aerospace, Mechanical, Mechatronics or Electrical Engineering, may apply for exemption from modules of up to a maximum of two trimesters. For applicants with non-relevant engineering background, i.e. Diploma from other engineering disciplines, exemption of modules will be considered on a case-by-case basis.	Obtained passes in at least two A/H2 Level subjects and offered General Paper (GP) or Knowledge & Inquiry (KI) in the same sitting while satisfying the Mother Tongue (MTL) requirements.	Obtained a minimum grade five for at least two Higher Level (HL) and one Standard Level (SL) subjects and the IB Diploma while satisfying the Mother Tongue (MTL) requirements.	Obtained the NUS High School Diploma while satisfying the Mother Tongue (MTL) requirements.	Completed at least 12 years of formal education deemed as acceptable, equivalent qualifications to be considered for admission. BCA diploma holders in Mechanical Engineering (Green Building Technology) may apply.
Telematics (Intelligent Transportation Systems Engineering), BEng (Hons)*	Completed a full-time local polytechnic Diploma. Applicants with relevant engineering background, i.e. Diploma in Electrical and Electronics Engineering, Computer Engineering and Information Technology, may apply for exemption from modules of up to a maximum of two trimesters. For applicants with non-relevant diplomas, exemption from modules will be considered on a case-by-case basis.	Obtained passes in at least two A/H2 Level subjects and offered General Paper (GP) or Knowledge & Inquiry (KI) in the same sitting while satisfying the Mother Tongue (MTL) requirements.	Obtained a minimum grade five for at least two Higher Level (HL) and one Standard Level (SL) subjects and the IB Diploma while satisfying the Mother Tongue (MTL) requirements.	Obtained the NUS High School Diploma while satisfying the Mother Tongue (MTL) requirements.	Completed at least 12 years of formal education deemed as acceptable, equivalent qualifications to be considered for admission. BCA diploma holders in the following may apply: • Construction Engineering • Construction Information Technology • Electrical Engineering and Clean Energy • Mechanical Engineering (Green Building Technology)

DEGREE PROGRAMME	FULL-TIME POLYTECHNIC DIPLOMA FROM SINGAPORE	GCE A LEVEL	INTERNATIONAL BACCALAUREATE DIPLOMA (IB)	NUS HIGH SCHOOL DIPLOMA	OTHER INTERNATIONAL QUALIFICATIONS
Systems Engineering (ElectroMechanical Systems), BEng (Hons) (SIT-DigiPen Singapore Joint Degree)	Completed a full-time local polytechnic Diploma. Applicants may be granted exemptions from individual modules on a case-by-case basis, depending on the content of previous modules completed and grade earned.	Obtained passes in at least two A/H2 Level subjects and offered General Paper (GP) or Knowledge & Inquiry (KI) in the same sitting while satisfying the Mother Tongue (MTL) requirements.	Obtained a minimum grade five for at least two Higher Level (HL) and one Standard Level (SL) subjects and the IB Diploma while satisfying the Mother Tongue (MTL) requirements.	Obtained the NUS High School Diploma while satisfying the Mother Tongue (MTL) requirements.	Completed at least 12 years of formal education deemed as acceptable, equivalent qualifications to be considered for admission.
Electrical Power Engineering, BEng (Hons) (SIT-NU Joint Degree)	Completed a full-time local polytechnic Diploma. Subject to approval, diploma applicants may be granted module exemptions, based on the modules taken during their diploma.	Obtained passes in at least two A/H2 Level subjects and offered General Paper (GP) or Knowledge & Inquiry (KI) in the same sitting while satisfying the Mother Tongue (MTL) requirements.	Obtained a minimum grade five for at least two Higher Level (HL) and one Standard Level (SL) subjects and the IB Diploma while satisfying the Mother Tongue (MTL) requirements.	Obtained the NUS High School Diploma while satisfying the Mother Tongue (MTL) requirements.	Completed at least 12 years of formal education deemed as acceptable, equivalent qualifications to be considered for admission.
• **Marine Engineering, BEng (Hons) (SIT-NU Joint Degree)** • **Naval Architecture, BEng (Hons) (SIT-NU Joint Degree)** • **Offshore Engineering, BEng (Hons) (SIT-NU Joint Degree)**	Completed a full-time local polytechnic Diploma. Subject to approval, diploma applicants may be granted module exemptions, based on the modules taken during their diploma.	Obtained passes in at least two A/H2 Level subjects and offered General Paper (GP) or Knowledge & Inquiry (KI) in the same sitting while satisfying the Mother Tongue (MTL) requirements.	Obtained a minimum grade five for at least two Higher Level (HL) and one Standard Level (SL) subjects and the IB Diploma while satisfying the Mother Tongue (MTL) requirements.	Obtained the NUS High School Diploma while satisfying the Mother Tongue (MTL) requirements.	Completed at least 12 years of formal education deemed as acceptable, equivalent qualifications to be considered for admission.

DEGREE PROGRAMME	FULL-TIME POLYTECHNIC DIPLOMA FROM SINGAPORE	GCE A LEVEL	INTERNATIONAL BACCALAUREATE DIPLOMA (IB)	NUS HIGH SCHOOL DIPLOMA	OTHER INTERNATIONAL QUALIFICATIONS
Mechanical Design and Manufacturing Engineering, BEng (Hons) (SIT-NU Joint Degree)	Completed a full-time local polytechnic Diploma. Subject to approval, diploma applicants may be granted module exemptions, based on the modules taken during their diploma.	Obtained passes in at least two A/H2 Level subjects and offered General Paper (GP) or Knowledge & Inquiry (KI) in the same sitting while satisfying the Mother Tongue (MTL) requirements.	Obtained a minimum grade five for at least two Higher Level (HL) and one Standard Level (SL) subjects and the IB Diploma while satisfying the Mother Tongue (MTL) requirements.	Obtained the NUS High School Diploma while satisfying the Mother Tongue (MTL) requirements.	Completed at least 12 years of formal education deemed as acceptable, equivalent qualifications to be considered for admission.
Civil Engineering, BEng (Hons) (SIT-UofG Joint Degree)*	Completed a full-time local polytechnic Diploma.	Obtained passes in at least two A/H2 Level subjects and offered General Paper (GP) or Knowledge & Inquiry (KI) in the same sitting while satisfying the Mother Tongue (MTL) requirements.	Obtained a minimum grade five for at least two Higher Level (HL) and one Standard Level (SL) subjects and the IB Diploma while satisfying the Mother Tongue (MTL) requirements.	Obtained the NUS High School Diploma while satisfying the Mother Tongue (MTL) requirements.	Completed at least 12 years of formal education deemed as acceptable, equivalent qualifications to be considered for admission. BCA diploma holders in Construction Engineering may apply.

Note:
^ Please refer to **SingaporeTech.edu.sg** for the detailed list of relevant diplomas.
* Graduates of the BEng programmes may choose to continue to take the Master of Engineering Technology degree (MEngTech).
For up-to-date information, please refer to **SingaporeTech.edu.sg**.

OTHER PROGRAMMES OFFERED UNDER ENGINEERING

ELECTRICAL ENGINEERING & INFORMATION TECHNOLOGY

TUM Asia

DEGREE PROGRAMME
- BSc

CAMPUS LOCATION
- SIT@SP Building

ELIGIBILITY
- Relevant Polytechnic Diploma Holders
- A Level/IB Diploma/NUS High School Diploma Holders

Based on the five pillars of Electrical Engineering and Information Technology — electrical engineering, information technology, mathematics, physics and signals and systems, this interdisciplinary programme broadens the educational scope to meet today's evolving challenges. In this digital age where technical innovations greatly influence our everyday life, students will be offered a head start in fundamental engineering principles and application-based skills in innovative product development. Students will have a choice of specialisation in Microelectronics, Integrated Circuit Design or Automation.

AERONAUTICAL ENGINEERING

University of Glasgow

DEGREE PROGRAMME
- BEng (Hons)

CAMPUS LOCATION
- SIT@SP Building

ELIGIBILITY
- Relevant Polytechnic Diploma Holders

Aeronautical Engineering is a highly-advanced discipline that explores how flight is possible and how flying vehicles are designed, powered, operated and controlled. This programme will enable students to analyse and understand the vehicles' behaviour, performance, propulsion and power systems, as well as perform detailed designs of structural components.

AEROSPACE SYSTEMS

University of Glasgow

DEGREE PROGRAMME
- BEng (Hons)

CAMPUS LOCATION
- SIT@SP Building

ELIGIBILITY
- Relevant Polytechnic Diploma Holders

All modern aircraft, from airliners to micro unmanned systems, rely on complex and comprehensive onboard systems. This programme requires students to bring together concepts from aeronautical, electrical and systems engineering to understand how these systems are designed, implemented and operated, as well as their effects on the operation, performance and safety of aerospace vehicles.

OTHER PROGRAMMES OFFERED UNDER ENGINEERING

MECHANICAL DESIGN ENGINEERING

University of Glasgow

DEGREE PROGRAMME
- BEng (Hons)

CAMPUS LOCATION
- SIT@NP Building

ELIGIBILITY
- Relevant Polytechnic Diploma Holders

With the need to keep up with industrial challenges and greener demands, this programme aims to produce creative engineers with the capabilities and aptitude for the design of novel engineering products, especially in key industries in Singapore such as aerospace, industrial automation, maritime and healthcare. Through a combination of mechanical engineering and studio-based projects, students will be equipped with the knowledge, understanding and skills for mechanical engineering and design with greener concepts, technologies and methodologies.

MECHATRONICS

University of Glasgow

DEGREE PROGRAMME
- BEng (Hons)

CAMPUS LOCATION
- SIT@NP Building

ELIGIBILITY
- Relevant Polytechnic Diploma Holders

Mechatronics is an interdisciplinary field of engineering that encompasses high-level synergistic and functional integration of mechanical engineering, electrical/electronics engineering, computer and software engineering. It involves the research, design, implementation and manufacturing of intelligent engineered systems for smart products and processes. Through this programme, students will be equipped with the knowledge, understanding and skills for mechanical engineering with electronics and intelligent computer control in the optimal design and manufacture of greener industrial products and processes. As an industry-focussed programme, students will have various career opportunities to meet the increasing demand in greener products and processes, sustainable manufacturing, smart homes and buildings, and intelligent aids for the elderly and disabled.

LOCATE US >

SIT@DOVER
10 Dover Drive, Singapore 138683

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Ngee Ann Polytechnic
537 Clementi Road, Singapore 599493

SIT@NYP BUILDING
Nanyang Polytechnic
172A Ang Mo Kio Ave 8, Singapore 567739
(beside Blk Q of NYP campus)

SIT@RP BUILDING
Republic Polytechnic
43 Woodlands Ave 9, Singapore 737729

SIT@SP BUILDING
Singapore Polytechnic
510 Dover Road, Singapore 139660

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Temasek Polytechnic
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