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Diploma in Architectural
Technology & Building
Services



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and are engineered
to excel here!** ✈️ ⚙️

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YOUR
FEED
FRAME
TOMORROW

SCHOOL OF ENGINEERING

Engineers revolutionise cities and communities, improve how we live, work and play, transform the future of healthcare with innovative biomedical inventions and develop disruptive digital technologies that make it all possible!

As today's Industry 4.0 revolution gathers pace, new emerging technologies such as artificial intelligence, automation, and the Internet of Things are being used in more and more applications, enhancing progress and sustainability. The School of Engineering (ENG) will not only prepare you for today's technological landscape, but also position you to be at the forefront of the next revolution—Industry 5.0!

Push the boundaries of modern engineering with our offering of 10 exciting diploma courses and a Common Entry Programme. You'll receive broad-based training in core engineering areas before specialising in exciting fields such as advanced manufacturing, aerospace, aviation, sustainable energy, integrated facility management or biomedical engineering.

You'll also have the opportunity to fast-track your degree ambitions with our University Pathway Programmes. In your final year, you can take actual university modules to secure conditional admission into selected courses at the National University of Singapore (NUS), Singapore Management University (SMU), or the Singapore University of Technology and Design (SUTD), and complete your degree sooner!

With quality lecturers, a robust technology innovation culture, prominent industry partners and a multidisciplinary curriculum, and many tie-ups with local and foreign universities, an engineering diploma from the School ensures that you'll be equipped with the versatility and edge you need to thrive in today's digital-first economy.

Get ready to engineer your bright future here—one dedicated to improving the world we live in!

Common entry programme

- [T56] Common Engineering Programme

Full-time diploma courses

- [T50] Aerospace Electronics
- [T51] Aerospace Engineering
- [T29] Architectural Technology & Building Services
- [T04] Aviation Management
- [T38] Biomedical Engineering
- [T43] Business Process & Systems Engineering
- [T13] Computer Engineering
- [T65] Electronics
- [T28] Integrated Facility Management
- [T66] Mechatronics

General and admissions enquiries

Tel : 6788 2000
Email : admissions@tp.edu.sg

Course enquiries

Tel : 6780 5144
Email : enghotline@tp.edu.sg
Website : www.tp.edu.sg/eng

For the latest tuition fees, visit:

www.tp.edu.sg/coursefees

MINIMUM ENTRY REQUIREMENTS

To be eligible for any School of Engineering diploma course:

English Language

Grade 1 – 7

Additional Mathematics / Mathematics

Grade 1 – 6

Any one of the following subjects

Grade 1 – 6

Biology, Biotechnology, Chemistry, Computing / Computer Studies, Design & Technology, Electronics / Fundamentals of Electronics, Physics, Science (Chemistry, Biology), Science (Physics, Biology), Science (Physics, Chemistry)

For details on ELR2B2-C computation, visit:

www.tp.edu.sg/elr2b2

FURTHER STUDIES

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



COMMON ENGINEERING PROGRAMME



Scan for full details, or visit:
www.tp.edu.sg/t56

The Course

This programme is a common entry point to seven different engineering diploma courses. If you're keen to pursue an engineering career but are still determining which of the many engineering disciplines would suit you best, then this is the programme for you. With seven diploma courses, this programme offers you ultimate flexibility.

Under this programme, you'll take the same foundation subjects as students who have enrolled directly in their respective diploma courses. The programme provides you with the time and opportunity to explore your strengths and interests further. With this experience, you'll then be ready to pick one of the following diploma courses at the end of your first or second semester:

- [T50] Aerospace Electronics
- [T51] Aerospace Engineering
- [T38] Biomedical Engineering
- [T43] Business Process & Systems Engineering
- [T13] Computer Engineering
- [T65] Electronics
- [T66] Mechatronics

Upon successfully completing this programme, you'll graduate with the same diploma as students who have joined a particular diploma course right from the start.

Foundation Subjects

- Circuit Analysis
- Computer Programming for Problem Solving
- Digital Fundamentals 1 & 2
- Electronic Devices & Circuits
- Electronic Prototyping
- Engineering Mathematics 1 & 2
- Engineering Physics

Years 2 and 3 Subjects:

The core subjects that you take in your second and third year of studies will depend on which of the seven diploma courses you stream into.

TP Fundamentals (TPFun) Subjects

Gain crucial life skills to navigate the modern workplace as a future-ready individual and team player.

TPFun Core Subjects

- Career Readiness & Communication
- Current Issues & Critical Thinking
- Effective Personal Leadership
- Global Studies
- Innovation & Entrepreneurship
- Sports & Wellness
- Sustainability & Climate Action
- Student Internship Programme

TPFun Elective Subject

- Beyond the Classroom: Guided Learning

Career Opportunities

This programme allows you to defer your decision on which course to take, so you can have more time to observe a particular industry's performance and the economic situation, before deciding on the course to pursue.

Depending on your specialisation, you'll be able to find jobs in any of the following engineering sectors: aerospace, advanced manufacturing and automation, biomedical sciences, computer and IT, sustainable energy, and smart buildings, as well as those outside the engineering sphere.

Notes

- Students in the Common Engineering Programme will take selected TPFun subjects during the programme, and complete the remaining subjects after streaming into their respective diploma courses.
- Any special health requirements for a specific diploma course will also apply if you choose to branch into that course.



AEROSPACE ELECTRONICS



Scan for full details, or visit:
www.tp.edu.sg/t50

The Course

This course equips you with fundamental and applied knowledge of aircraft electrical, communication, navigation and flight control systems. You'll undergo a rigorous aerospace training programme, including practical modules offered together with our partner and world-renowned aircraft maintenance training provider, Lufthansa Technical Training (LTT) of Germany.

As TP is the first polytechnic certified by the Civil Aviation Authority of Singapore (CAAS) as a SAR-147 Approved Maintenance Training Organisation (AMTO), your diploma will be more widely recognised by employers. Your Aircraft Maintenance Licence (AML) apprenticeship duration after graduating from TP will also be significantly shortened by up to 10 months.

If you aspire to be a pilot, you can also fulfil your dream by taking flying lessons as part of your Student Internship Programme in your final semester of study, to get that coveted Private Pilot Licence (PPL).

Year 1 Subjects

- Artificial Intelligence in Engineering
- Avionic Systems
- Circuit Analysis
- Computer Programming for Problem Solving
- Digital Fundamentals 1 & 2
- Electronic Devices & Circuits
- Engineering Mathematics 1 & 2
- Engineering Physics

Year 2 Subjects

- Aerospace Maintenance Practices
- Aircraft Electrical Fundamentals
- Aircraft Electronics & Servomechanisms
- Data Visualisation & Analytics
- Engineering Mathematics 3
- Fundamentals of Aeronautical Science

Year 3 Subjects

- Aircraft Digital Systems
- Aviation Legislation & Human Factors
- Basic Aerodynamics

IoT & Automation Elective Cluster

- Intelligent Automation
- Internet of Things Project

Aerospace Operations Elective Cluster

- Lean Processes
- Unmanned Aircraft Operations

Industry Practice Elective Cluster # ^

- Guided Work-based Learning
- Major Project

University Pathway Programme

(NUS/EE) # ^

- Electrical Engineering Principles & Practice
- Fundamentals of Physics
- Introductory Mathematics
- Major Project
- Programming Methodology

University Pathway Programme

(SMU/IS) # ^

- Algorithms & Programming
- Business Process Analytics & Solutioning

University Pathway Programme

(SMU/CS) # ^

- Collaborative Software Development
- Mathematical Foundations of Computing

University Pathway Programme

(SMU/SW) # ^

- Algorithms & Programming
- Operating Systems & Networking

Students are to choose one of these elective clusters
 ^ For selected students

TP Fundamentals (TPFun) Subjects

Gain crucial life skills to navigate the modern workplace as a future-ready individual and team player.

TPFun Core Subjects

- Career Readiness & Communication
- Current Issues & Critical Thinking
- Effective Personal Leadership
- Global Studies
- Innovation & Entrepreneurship
- Sports & Wellness
- Sustainability & Climate Action
- Student Internship Programme

TPFun Elective Subject

- Beyond the Classroom: Guided Learning

Career Opportunities

Singapore is Asia's most comprehensive aerospace maintenance, repair and overhaul (MRO) hub. You can seize opportunities in the fast-expanding aerospace industry, which by 2024 had an output worth S\$15.4 billion and hired about 21,000 workers spread across more than 130 local and international companies in Singapore. (*The Straits Times*, 19 Feb 2024.)

The aerospace industry is poised to continue its exponential growth as demand for air travel continues to pick up speed.

This spells exciting job opportunities for you, some of which are:

- Avionics Test Engineers
- Licensed Aircraft Engineers (LAE)
- Process / Quality Engineers
- Technical Service Engineers

Note: Applicants should not be suffering from mild or severe colour vision deficiency, uncontrolled epilepsy, profound hearing loss, severe vision impairment or any physical impairment, or be physically dependent on mobility equipment.



AEROSPACE ENGINEERING



Scan for full details, or visit:
www.tp.edu.sg/t51

The Course

This course equips you with a strong foundation specialising in aerodynamics, aircraft engines, structures, and systems. You'll undergo a rigorous aerospace training programme, including practical modules offered together with our partner and world-renowned aircraft maintenance training provider, Lufthansa Technical Training (LTT) of Germany.

As TP is the only polytechnic certified by the Civil Aviation Authority of Singapore (CAAS) as a SAR-147 Approved Maintenance Training Organisation (AMTO), prospective employers will widely recognise your diploma. Your Aircraft Maintenance Licence (AML) apprenticeship duration after graduating from TP will also be significantly shortened by up to 10 months.

If you aspire to be a pilot, you can also fulfil your dream by taking flying lessons as part of your Student Internship Programme in your final semester of study to get that coveted Private Pilot Licence (PPL).

Year 1 Subjects

- Circuit Analysis
- Computer Programming for Problem Solving
- Digital Fundamentals 1
- Electronic Devices & Circuits
- Engineering Drawing
- Engineering Mathematics 1 & 2
- Engineering Physics
- Statics & Strength of Materials
- Thermodynamics

Year 2 Subjects

- Aircraft Electrical Fundamentals
- Aircraft Electronics & Digital Systems
- Artificial Intelligence in Engineering
- Aviation Legislation & Human Factors
- Basic Aerodynamics
- Data Visualisation & Analytics
- Engineering Materials
- Engineering Mathematics 3
- Fluid Mechanics
- Gas Turbine Engine
- Principles of Dynamics

Year 3 Subjects

Aerospace System Design (ASD) Elective Cluster

- Aircraft Structures & Composites
- Engine Maintenance & Workshop Practices
- Major Project

Lufthansa Technical Training (LTT) Elective Cluster

- Aerospace Maintenance Practices

Industry Practice Elective Cluster #^

- Guided Work-based Learning
- Major Project

University Pathway Programme (NUS/ME) #^

- Engineering Principles & Practice
- Fundamentals of Physics
- Introductory Mathematics
- Major Project
- Programming Methodology

University Pathway Programme (SMU/IS) #^

- Algorithms & Programming
- Business Process Analytics & Solutioning

University Pathway Programme (SMU/CS) #^

- Collaborative Software Development
- Mathematical Foundations of Computing

University Pathway Programme (SMU/SW) #^

- Algorithms & Programming
- Operating Systems & Networking

Students are to choose one of these elective clusters
 ^ For selected students

TP Fundamentals (TPFun) Subjects

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TPFun Core Subjects

- Career Readiness & Communication
- Current Issues & Critical Thinking
- Effective Personal Leadership
- Global Studies
- Innovation & Entrepreneurship
- Sports & Wellness
- Sustainability & Climate Action
- Student Internship Programme

TPFun Elective Subject

- Beyond the Classroom: Guided Learning

Career Opportunities

Singapore is Asia's most comprehensive aerospace maintenance, repair and overhaul (MRO) hub. You can seize opportunities in the fast-expanding aerospace industry, which by 2024 had an output worth S\$15.4 billion and hired about 21,000 workers spread across more than 130 local and international companies in Singapore. (*The Straits Times*, 19 Feb 2024.)

The aerospace industry is poised to continue its exponential growth as demand for air travel continues to pick up speed.

This spells exciting job opportunities for you, some of which are:

- Aero-mechanical Systems Specialists
- Aerospace Component Design Engineers
- Engine or Power-plant Technologists
- Licensed Aircraft Engineers (LAE)

Note: Applicants should not be suffering from mild or severe colour vision deficiency, uncontrolled epilepsy, profound hearing loss, severe vision impairment or any physical impairment, or be physically dependent on mobility equipment.



ARCHITECTURAL TECHNOLOGY & BUILDING SERVICES

Scan for full details, or visit:
www.tp.edu.sg/t29

The Course

You would have heard about climate change, but did you know that a building's design can play a part in combating it?

This pioneering multidisciplinary polytechnic course is dedicated to harnessing technology and digitalisation to shape the smart, sustainable buildings of tomorrow. You'll gain hands-on experience with innovative digital tools and integrated design strategies that minimise energy consumption and reduce carbon footprints.

Learn to evaluate the economic benefits of enhancing energy performance and master the selection of sustainable materials essential for green buildings. You will be empowered to lead the creation of a greener and more resilient built environment!

During your course, you can also attain the Fire Safety Manager certification from the Singapore Civil Defence Force, and the Digital Delivery Management Certification – Tier 4 (Provisional) from Building Smart Singapore.

Year 1 Subjects

- Artificial Intelligence in Engineering
- Climate Responsive Design Simulation
- Computer Programming for Problem Solving
- Digital Modelling for Architecture
- Engineering Mathematics 1 & 2
- Engineering Physics
- Generative Design for Architecture
- Principles of Sustainable Design

Year 2 Subjects

- Air-Conditioning & Mechanical Ventilation
- Building Management System
- Building Performance Modelling
- Building Systems Modelling
- Data Visualisation & Analytics
- Electrical System Design for Buildings
- Energy Management & Audit
- Fire & Life Safety Management
- Integrated Design Studio

Year 3 Subjects

- Major Project

Advanced Engineering Skills

Elective Cluster

- Advanced Skills Practices

Environmental Sustainability

Elective Cluster

- Life Cycle Analysis
- Project Management

Industry Practice Elective Cluster #^

- Guided Work-based Learning

University Pathway Programme

(NUS/IPM) #^

- Built Environment Engineering Principles & Practice
- Construction Technology
- Infrastructure & Project Management Law
- Introduction to Building Performance
- Structural Systems

University Pathway Programme

(NUS/ME) #^

- Engineering Principles & Practice
- Fundamentals of Physics
- Introductory Mathematics
- Programming Methodology

University Pathway Programme (SUTD) #^

- Computational Thinking for Design
- Modelling & Analysis
- Physical World
- Social Science: Understanding Behaviour, Culture & Society

University Pathway Programme

(SMU/IS) #^

- Algorithms & Programming
- Business Process Analytics & Solutioning

University Pathway Programme

(SMU/CS) #^

- Collaborative Software Development
- Mathematical Foundations of Computing

University Pathway Programme

(SMU/SW) #^

- Algorithms & Programming
- Operating Systems & Networking

Students are to choose one of these elective clusters
^ For selected students

TP Fundamentals (TPFun) Subjects

Gain crucial life skills to navigate the modern workplace as a future-ready individual and team player.

TPFun Core Subjects

- Career Readiness & Communication
- Current Issues & Critical Thinking
- Effective Personal Leadership
- Global Studies
- Innovation & Entrepreneurship
- Sports & Wellness
- Sustainability & Climate Action
- Student Internship Programme

TPFun Elective Subject

- Beyond the Classroom: Guided Learning

Career Opportunities

In alignment with the Singapore Green Plan 2030, which aims to ensure that 80% of the built environment is "green" over the next decade, there is a growing emphasis on developing eco-friendly districts and super-low energy buildings on a significant scale. Hence, you can anticipate promising career opportunities in green-collared roles, particularly within the field of architectural technology and building systems design.

There are exciting jobs in companies at the forefront of sustainable design and development, such as:

- Architectural Technologists
- Building Automation Technologists
- Digital Delivery Management Specialists
- Energy Management Executives
- Environmental Sustainability Design (ESD) Engineers / Architects
- Green Building Designers

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



AVIATION MANAGEMENT



Scan for full details, or visit:
www.tp.edu.sg/t04

The Course

This course is the first Aviation Management programme of its kind in Asia. You'll learn and combine a broad range of specialised aviation management skills with business knowledge. From learning how to manage a world-class airport to acquiring the skill sets to operate the best airlines in the world, you'll be fully equipped to take off on an exciting career in the aviation industry!

No aviation programme is complete without experiencing flight! In this course, you may take to the skies as a cabin crew member with a Singapore-based airline as part of your internship. Or, you could take the first step towards becoming a pilot via our Aeronautical Science Option, where you'll undergo the required flying and theoretical lessons to obtain a Private Pilot Licence (PPL). Selected foundational subjects in this option will also give you an advantage if you pursue the Commercial Pilot Licence (CPL) or Air Transport Pilot Licence (ATPL) in the future. These special arrangements, not offered in any similar course by other local polytechnics, will give you a head start in the aviation industry.

Year 1 Subjects

- Airline Operations
- Artificial Intelligence in Engineering
- Business Fundamentals
- Computer Programming for Problem Solving
- Engineering Mathematics 1 & 2
- Introduction to Civil Aviation
- Principles of Aeronautical Science
- Quantitative Methods

Year 2 Subjects

- Airfield Systems
- Airline Management
- Airport Operations & Management
- Airport Systems
- Aviation Safety & Security
- Business Continuity Management
- Data Visualisation & Analytics
- Project Management
- Service Quality & Management

Year 3 Subjects

- Major Project

Aeronautical Science Option

- Air Navigation
- Flight Planning
- Meteorological Studies

Airport & Airline Option

- Air Traffic Management
- Airport Administration
- Management of Air Cargo

University Pathway Programme (SMU/IS) # ^

- Algorithms & Programming
- Business Process Analytics & Solutioning

University Pathway Programme (SMU/CS) # ^

- Collaborative Software Development
- Mathematical Foundations of Computing

University Pathway Programme (SMU/SW) # ^

- Algorithms & Programming
- Operating Systems & Networking

**Students are to choose one of these options*

TP Fundamentals (TPFun) Subjects

Gain crucial life skills to navigate the modern workplace as a future-ready individual and team player.

TPFun Core Subjects

- Career Readiness & Communication
- Current Issues & Critical Thinking
- Effective Personal Leadership
- Global Studies
- Innovation & Entrepreneurship
- Sports & Wellness
- Sustainability & Climate Action
- Student Internship Programme

TPFun Elective Subject

- Beyond the Classroom: Guided Learning

Career Opportunities

You can be part of the global aviation business, which supports more than 87 million jobs worldwide and is predicted to need another 2.4 million aviation professionals over the next 20 years (Boeing report, 22 Jul 2025).

With the world's best airport and airline at your doorstep and many top airlines and aerospace firms operating in Singapore, this is the place to be for aviation training! Boosted by strong government support, as well as increasing demand for air travel, our aviation sector will continue to require highly skilled professionals to operate and manage existing and upcoming aviation services and facilities. Your strong management skills will also give you an advantage in various business and hospitality-related domains.

These are some of the exciting jobs that could be yours!

- Air Traffic Controllers
- Airline Flight Controllers
- Airport Operations Centre Managers
- Airside Duty Managers
- Airside Officers
- Duty Terminal Managers
- Ground Services Officers

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



BIOMEDICAL ENGINEERING



Scan for full details, or visit:
www.tp.edu.sg/t38

The Course

This interdisciplinary course, which blends biology, chemistry and engineering, provides you with integrated training in biological techniques and biomedical instrumentation, including BioMEMS (Biomedical Micro-Electro-Mechanical Systems), microfluidics, flexible hybrid electronics for healthcare wearables, and smart healthcare devices using artificial intelligence. In your final year, you can choose from a wide selection of elective clusters covering various domain areas to give you a more in-depth specialisation in specific biomedical fields. Selected students can also embark on a one-year internship (compared to 4 months for most other diplomas) to gain more industry experience.

Year 1 Subjects

- Circuit Analysis
- Computer Programming for Problem Solving
- Digital Fundamentals 1 & 2
- Electronic Devices & Circuits
- Electronic Prototyping
- Engineering Mathematics 1 & 2
- Engineering Physics

Year 2 Subjects

- Artificial Intelligence in Engineering
- Chemistry
- Data Visualisation & Analytics
- Engineering Mathematics 3
- Human Anatomy & Physiology
- Medical Devices
- Medical Device Manufacturing Practices
- Medical Electronics
- Medical Imaging & Informatics
- Microcontroller Applications

Year 3 Subjects

- Major Project

Advanced Engineering Skills Elective Cluster

- Advanced Skills Practices

Biomedical Design & Devices Elective Cluster

- Audiometry & Hearing Devices
- CAD & Additive Manufacturing

Cardiology Technology Elective Cluster

- Clinical Cardiology

Clinical Equipment & Process Elective Cluster

- Clinical Laboratory Equipment
- Medical Biochemistry

Clinical Laboratory Practice Elective Cluster

- Medical Laboratory Technology

Healthcare Informatics Elective Cluster

- Healthcare Analytics
- Patient Monitoring Technology

Sustainability in Engineering Elective Cluster

(Choose any 2 subjects in this cluster)

- Green Urban Transportation & Energy Storage
- Life Cycle Analysis
- Renewable Energy Technologies
- Solar Photovoltaic Technology & Leasing

Industry Practice Elective Cluster #^

- Guided Work-based Learning

University Pathway Programme (NUS/BME) #^

- Biomedical Engineering Principles & Practice 1
- Biomedical Engineering Principles & Practice 2
- Fundamentals of Physics
- Fundamentals of Project Management

University Pathway Programme (NUS/EE) #^

- Electrical Engineering Principles & Practice
- Fundamentals of Physics
- Introductory Mathematics
- Programming Methodology

University Pathway Programme (SUTD) #^

- Computational Thinking for Design
- Modelling & Analysis
- Physical World
- Social Science: Understanding Behaviour, Culture & Society

University Pathway Programme (SMU/IS) #^

- Algorithms & Programming
- Business Process Analytics & Solutioning

University Pathway Programme (SMU/CS) #^

- Collaborative Software Development
- Mathematical Foundations of Computing

University Pathway Programme (SMU/SW) #^

- Algorithms & Programming
- Operating Systems & Networking

Wafer Fabrication Process & Equipment Technologies

- Wafer Fabrication Technology
- Cleanroom & Vacuum Technology

Students are to choose one of these elective clusters

^ For selected students

TP Fundamentals (TPFun) Subjects

Gain crucial life skills to navigate the modern workplace as a future-ready individual and team player.

TPFun Core Subjects

- Career Readiness & Communication
- Current Issues & Critical Thinking
- Effective Personal Leadership
- Global Studies
- Innovation & Entrepreneurship
- Sports & Wellness
- Sustainability & Climate Action
- Student Internship Programme

TPFun Elective Subject

- Beyond the Classroom: Guided Learning

Career Opportunities

An ageing population, global health pandemics, chronic diseases, greater health awareness and the growing affluence of the population have collectively led to a surge in demand for high-quality MedTech products and biomedical services. Additionally, Singapore has established itself as a strategic hub for innovative healthcare solutions and medical technology (MedTech) manufacturing, producing about S\$19.4 billion worth of high-value manufacturing products. More than 400 MedTech companies, including world-renowned brands, operate in Singapore, hiring about 16,900 MedTech professionals (EDB Report, 3 Jun 2025).

You will have exciting and lucrative career prospects as:

- Application / Service Engineers
- Biomedical Technical Officers
- Biomedical Design Engineers
- Imaging Specialists
- Medical Product Specialists
- Medical Technologists
- Medical Sales & Marketing Executives
- Regulatory Affairs Executives

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



T43

BUSINESS PROCESS & SYSTEMS ENGINEERING



Scan for full details, or visit:
www.tp.edu.sg/t43

The Course

As Singapore strives to be a world-class manufacturing centre and logistics hub, there will be a demand for tech-savvy professionals with multidisciplinary knowledge and skills who can offer solutions to business issues and problems and add value to their organisations.

In this course, you'll receive training in business principles and operation concepts, as well as engineering fundamentals and data analytics for the digital economy. Two main areas of focus are **Business Analytics**, which involves the systematic investigation, prediction and prescription of business performance to provide insights for future planning; and **Systems Engineering**, which deals with the management, improvement and optimisation of business processes to enhance business productivity and profits.

Year 1 Subjects

- Artificial Intelligence in Engineering
- Business Fundamentals
- Circuit Analysis
- Computer Programming for Problem Solving
- Digital Fundamentals 1
- Engineering Mathematics 1
- Introduction to Processes & Systems
- Quantitative Methods

Year 2 Subjects

- Customer Relationship Management
- Data Management for Process Analytics
- Data Visualisation & Analytics
- Decision Analysis
- Manufacturing Logistics & Simulation
- Process Management Systems
- Process Optimisation & Improvement
- Project Management
- Sustainable Supply Chain Management
- Systems Modelling & Simulation

Year 3 Subjects

- Major Project

Process Analytics & Automation

Elective Cluster

- Intelligent Automation
- IoT Security

Supply Chain Management

Elective Cluster

- Distribution Centre Management
- Procurement Materials & Management

Industry Practice Elective Cluster #^

- Guided Work-based Learning

University Pathway Programme

(NUS/EE) #^

- Electrical Engineering Principles & Practice
- Fundamentals of Physics
- Introductory Mathematics
- Programming Methodology

University Pathway Programme

(NUS/ME) #^

- Engineering Principles & Practice
- Fundamentals of Physics
- Introductory Mathematics
- Programming Methodology

University Pathway Programme (SUTD) #^

- Computational Thinking for Design
- Modelling & Analysis
- Physical World
- Social Science: Understanding Behaviour, Culture & Society

University Pathway Programme

(SMU/CS) #^

- Collaborative Software Development
- Mathematical Foundations of Computing

University Pathway Programme

(SMU/SW) #^

- Algorithms & Programming
- Operating Systems & Networking

#Students are to choose one of these elective clusters

^ For selected students

TP Fundamentals (TPFun) Subjects

Gain crucial life skills to navigate the modern workplace as a future-ready individual and team player.

TPFun Core Subjects

- Career Readiness & Communication
- Current Issues & Critical Thinking
- Effective Personal Leadership
- Global Studies
- Innovation & Entrepreneurship
- Sports & Wellness
- Sustainability & Climate Action
- Student Internship Programme

TPFun Elective Subject

- Beyond the Classroom: Guided Learning

Career Opportunities

Armed with the knowledge of fundamental business principles, data analytics, business process improvement and systems engineering, you will be able to identify gaps in business or logistics operations through effective data analysis, automate processes to remove repetitive manual work, and use predictive analytics to effectively deploy operations. You will be empowered to navigate in any company, regardless of its size or stage of digitalisation, in sectors such as manufacturing, logistics, healthcare, finance, retail, customer service, as well as sales and marketing.

Your highly transferable skill sets will allow you to secure exciting jobs such as:

- Business Analysts
- Customer Relationship Executives
- Logistics & Supply Chain Executives
- Market Researchers
- Productivity & Management Systems Executives
- Quality Assurance & Control Specialists

With this diploma, you will also be well-equipped to pursue further studies in business, finance, accountancy, the arts and social sciences, law, and engineering.

Note: Applicants should not be suffering from severe colour vision deficiency or severe vision impairment.



COMPUTER ENGINEERING



Scan for full details, or visit:
www.tp.edu.sg/t13

The Course

With more and more companies embarking on digitalising their processes and businesses and placing high importance on applying the latest digital solutions, there is a growing demand for talent in the field of computer engineering. This course covers the traditional computer engineering areas and the emerging fields of the Internet of Things (IoT), data analytics, artificial intelligence, cyber security and smart manufacturing, empowering you to drive Singapore's economic transformation.

The course will prepare you to take internationally recognised industry certification examinations such as those from National Instruments, UI Path, Microsoft and Unity3D. Selected students can also embark on a year-long internship with ST Engineering and National Computer Systems (NCS) to gain robust industry experience.

Year 1 Subjects

- Circuit Analysis
- Computer Programming for Problem Solving
- Digital Fundamentals 1 & 2
- Electronic Devices & Circuits
- Electronic Prototyping
- Engineering Mathematics 1 & 2
- Engineering Physics

Year 2 Subjects

- Artificial Intelligence in Engineering
- Artificial Intelligence & Machine Learning
- Data Visualisation & Analytics
- Engineering Mathematics 3
- Full Stack Development
- Intelligent Automation
- Internet of Things Project
- Microcontroller Applications
- Object-oriented Programming

Advanced Engineering Skills Elective Cluster

- Advanced Skills Practices

Industrial Internet of Things Elective Cluster

- System & Network Integration

Intralogistics & Cybersecurity Elective Cluster

- IoT Security

Virtual Reality Elective Cluster

- 3D Modelling for Virtual Reality

Sustainability in Engineering Elective Cluster

(Choose 1 subject under this cluster)

- Life Cycle Analysis
- Renewable Energy Technologies

Wafer Fabrication Process & Equipment Elective Cluster

- Wafer Fabrication Technology

Year 3 Subjects

- Major Project

Industrial Internet of Things Elective Cluster

- Mobile Device Applications Development

Intralogistics & Cybersecurity Elective Cluster

- Distribution Centre Management

Virtual Reality Elective Cluster

- Interactive Programming for Virtual Reality

Sustainability in Engineering Elective Cluster

(Choose 1 subject under this cluster)

- Green Urban Transportation & Energy Storage
- Solar Photovoltaic Technology & Leasing

Industry Practice Elective Cluster # ^

- Guided Work-based Learning

University Pathway Programme (NUS/EE) # ^

- Electrical Engineering Principles & Practice
- Fundamentals of Physics
- Introductory Mathematics
- Programming Methodology

University Pathway Programme (NUS/ME) # ^

- Engineering Principles & Practice
- Fundamentals of Physics
- Introductory Mathematics
- Programming Methodology

University Pathway Programme (SUTD) # ^

- Computational Thinking for Design
- Modelling & Analysis
- Physical World
- Social Science: Understanding Behaviour, Culture & Society

University Pathway Programme (SMU/IS) # ^

- Algorithms & Programming
- Business Process Analytics & Solutioning

University Pathway Programme (SMU/CS) # ^

- Collaborative Software Development
- Mathematical Foundations of Computing

University Pathway Programme (SMU/SW) # ^

- Algorithms & Programming
- Operating Systems & Networking

Wafer Fabrication Process & Equipment Elective Cluster

Students must choose the same elective cluster in both Year 2 and Year 3

- Cleanroom & Vacuum Technology

^ For selected students

TPFundamentals (TPFun) Subjects

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TPFun Core Subjects

- Career Readiness & Communication
- Current Issues & Critical Thinking
- Effective Personal Leadership
- Global Studies
- Innovation & Entrepreneurship
- Sports & Wellness
- Sustainability & Climate Action
- Student Internship Programme

TPFun Elective Subject

- Beyond the Classroom: Guided Learning

Career Opportunities

With your expertise and mastery in both hardware and software, you'll have a competitive edge over professionals who specialise in only one of these areas.

You can look forward to many exciting job opportunities and excellent career prospects as:

- Data Analysts
- Embedded Systems Engineers
- Hardware Engineers
- Integration Engineers
- Network / Servers / Database / Computer Systems Administrators
- Software / Web / Mobile Application Developers or Programmers
- Systems Analysts

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



ELECTRONICS



Scan for full details, or visit:
www.tp.edu.sg/t65

The Course

From smartphones to electric cars, we live in a hyper-connected world driven by cutting-edge technologies, where electronic circuits and devices are found in almost every application or appliance. This course will equip you with future-ready skill sets in emerging technologies such as advanced manufacturing, artificial intelligence and the Internet of Things, as well as their applications in various fields like healthcare, assistive technology, and green innovations for the environment.

In your final year, you can choose one of these elective clusters for further specialisation: Aerospace Electronics (Avionics), Advanced Engineering Skills, Industrial Artificial Intelligence, Intralogistics & Cybersecurity, Robotics, Semiconductors (Wafer Fabrication Process & Equipment), Sustainability in Engineering, or Industry Practice. Selected students can also embark on a one-year internship (compared to 4 months for most other diplomas) to gain more industry experience.

Year 1 Subjects

- Circuit Analysis
- Computer Programming for Problem Solving
- Digital Fundamentals 1 & 2
- Electronic Devices & Circuits
- Electronic Prototyping
- Engineering Mathematics 1 & 2
- Engineering Physics

Year 2 Subjects

- Advanced Electronics & Communications
- Artificial Intelligence in Engineering
- Circuit & Control Systems
- Data Visualisation & Analytics
- Digital Sensors & Integrated Circuit Applications
- Engineering Mathematics 3
- Integrated Project
- Microcontroller Applications
- Power Electronics & Drives
- Printed Circuit Board Design

Year 3 Subjects

- Major Project

Advanced Engineering Skills Elective Cluster

- Advanced Skills Practices

Avionics Elective Cluster

- Aircraft Digital Systems
- Avionic Systems

Industrial Artificial Intelligence Elective Cluster

- Edge Computing & Machine Learning
- Industrial IoT Analytics

Intralogistics & Cybersecurity Elective Cluster

- Distribution Centre Management
- IoT Security

Robotics Elective Cluster

- Robotics & Automation
- Smart Manufacturing System

Sustainability in Engineering

Elective Cluster

(Choose any 2 subjects under this cluster)

- Green Urban Transportation & Energy Storage
- Life Cycle Analysis
- Renewable Energy Technologies
- Solar Photovoltaic Technology & Leasing

Industry Practice Elective Cluster #^

- Guided Work-based Learning

University Pathway Programme (NUS/EE) #^

- Electrical Engineering Principles & Practice
- Fundamentals of Physics
- Introductory Mathematics
- Programming Methodology

University Pathway Programme (NUS/ME) #^

- Engineering Principles & Practice
- Fundamentals of Physics
- Introductory Mathematics
- Programming Methodology

University Pathway Programme (SUTD) #^

- Computational Thinking for Design
- Modelling & Analysis
- Physical World
- Social Science: Understanding Behaviour, Culture & Society

University Pathway Programme (SMU/IS) #^

- Algorithms & Programming
- Business Process Analytics & Solutioning

University Pathway Programme (SMU/CS) #^

- Collaborative Software Development
- Mathematical Foundations of Computing

University Pathway Programme (SMU/SW) #^

- Algorithms & Programming
- Operating Systems & Networking

Wafer Fabrication Process & Equipment

Elective Cluster

- Cleanroom & Vacuum Technology
- Wafer Fabrication Technology

Students are to choose one of these elective clusters

^ For selected students

TP Fundamentals (TPFun) Subjects

Gain crucial life skills to navigate the modern workplace as a future-ready individual and team player.

TPFun Core Subjects

- Career Readiness & Communication
- Current Issues & Critical Thinking
- Effective Personal Leadership
- Global Studies
- Innovation & Entrepreneurship
- Sports & Wellness
- Sustainability & Climate Action
- Student Internship Programme

TPFun Elective Subject

- Beyond the Classroom: Guided Learning

Career Opportunities

Singapore is home to many of the world's leading electronics and semiconductor manufacturers. With this diploma, you'll have dynamic and exciting career prospects in the many diverse sectors that use consumer and industrial electronics today.

Potential jobs for you include:

- Electronics / IoT / System Integration Engineers
- Automation / Maintenance / Equipment Engineers
- Production Process Engineers
- Sales / Marketing Engineers
- Software / Firmware / Embedded Engineers
- Sustainability Executives / Specialists

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



INTEGRATED FACILITY MANAGEMENT



Scan for full details, or visit:
www.tp.edu.sg/t28

The Course

Buildings and facilities developed today must be beautiful, functional, as well as highly sustainable, energy-efficient, and integrated with smart technologies. You can play a part in achieving it!

This course will equip you with the necessary multidisciplinary skill sets to manage modern facilities' amenities, aesthetics and functionality in today's landscape. You will acquire skills in emerging technologies needed to manage major physical establishments' amenities, aesthetics, and functionality—gaining exposure to Sustainability areas like Green Buildings, Life Cycle Analysis, Data Analytics and Data Visualisation, and smart technologies such as the Internet of Things (IoT), Robotics & Automation and Asset Management.

You can also choose to take Hospitality Facilities, Aviation Facilities or Smart Facilities as a cluster elective to gain more specialised career opportunities!

Year 1 Subjects

- Air-conditioning & Mechanical Ventilation
- Building Information Modelling Collaboration
- Electrical System Design For Buildings
- Engineering Mathematics 1 & 2
- Facilities Operations & Maintenance
- Security & Surveillance
- Virtual Design & Facility Planning
- Workplace Safety & Health for Facility Management

Year 2 Subjects

- Artificial Intelligence in Engineering
- Computer Programming for Problem Solving
- Contract Management
- Energy Management & Audit
- Fire & Life Safety Management
- Project Management
- Sustainable Facility Management

Aviation Facilities Elective Cluster

- Airport Administration #
- Airport Operations & Management #
- Airport Systems #

Hospitality Facilities Elective Cluster

- Customer Experience Innovation #
- Event Design & Innovation #
- Introduction to Hospitality & Tourism #

Smart Facilities Elective Cluster

- Building Management System #
- Intelligent Automation #
- Smart FM & Asset Enhancement #

* Students are to choose three of these cluster elective subjects

Year 3 Subjects

- Major Project
- Data Visualisation & Analytics
- Service Quality & Management

University Pathway Programme (NUS/IPM) #^

- Built Environment Engineering Principles & Practice
- Construction Technology
- Infrastructure & Project Management Law
- Introduction to Building Performance
- Structural Systems

University Pathway Programme (SMU/IS) #^

- Algorithms & Programming
- Business Process Analytics & Solutioning

University Pathway Programme (SMU/CS) #^

- Collaborative Software Development
- Mathematical Foundations of Computing

University Pathway Programme (SMU/SW) #^

- Algorithms & Programming
- Operating Systems & Networking

^ For selected students

TP Fundamentals (TPFun) Subjects

Gain crucial life skills to navigate the modern workplace as a future-ready individual and team player.

TPFun Core Subjects

- Career Readiness & Communication
- Current Issues & Critical Thinking
- Effective Personal Leadership
- Global Studies
- Innovation & Entrepreneurship
- Sports & Wellness
- Sustainability & Climate Action
- Student Internship Programme

TPFun Elective Subject

- Beyond the Classroom: Guided Learning

Career Opportunities

Armed with multidisciplinary skills, you'll find employment in the facilities management or development teams in the airport, hospitality and tourism, events and convention, leisure and entertainment, integrated resort, as well as business and finance sectors, as:

- Asset Management Executives / Managers
- BIM Modellers
- Facility Management Executives / Managers
- Fire Safety Managers
- Property or Project Executives / Managers
- Sustainability Executives / Managers

You'll also be able to pursue numerous certifications recognised by the industry, such as:

- BizSAFE Level 2 (Risk Management)
- BizSAFE Level 4 (Workplace Safety & Health Management)
- Fire Safety Manager certification from SCDF
- Digital Delivery Management Certification – Tier 4 (Provisional)
- ICDL Microsoft Office Certification (PowerPoint, Excel and Excel Advanced)
- Project Management Associate Certification (CAPM)

Note: Applicants should not be suffering from severe vision impairment.



MECHATRONICS



Scan for full details, or visit:
www.tp.edu.sg/t66

The Course

Industry 4.0 is transforming the modern workplace. This course prepares you for the new era of advanced manufacturing, where humans, machines, and systems communicate and collaborate as one. You'll learn to master the application of robotics, automation, 3D printing and data analytics in technological areas such as cyber-physical systems, virtual manufacturing, machine vision and pattern recognition.

In your final year, you can choose one of these exciting elective clusters for further specialisation: 3D Printing, Advanced Engineering Skills, Advanced Manufacturing, Aerospace Systems, Intralogistics & Cybersecurity, Sustainability in Engineering, Wafer Fabrication Process & Equipment Technologies, or Industry Practice.

Year 1 Subjects

- Circuit Analysis
- Computer Programming for Problem Solving
- Digital Fundamentals 1 & 2
- Electronic Devices & Circuits
- Electronic Prototyping
- Engineering Mathematics 1 & 2
- Engineering Physics

Year 2 Subjects

- Artificial Intelligence in Engineering
- Control & Automation
- Data Visualisation & Analytics
- Engineering Drawing
- Engineering Mathematics 3
- Integrated Project
- Machining Technology
- Principles of Dynamics
- Robotics & Automation
- Statics & Strength of Materials

Year 3 Subjects

- Major Project

3D Printing Elective Cluster

- Advanced CAD & Simulation
- CAD & Additive Manufacturing

Advanced Engineering Skills Elective Cluster

- Advanced Skills Practices

Advanced Manufacturing Elective Cluster

- Machine Vision & Pattern Recognition
- Smart Manufacturing System

Aerospace Systems Elective Cluster

- Gas Turbine Engine
- Thermodynamics

Intralogistics & Cybersecurity Elective Cluster

- Distribution Centre Management
- IoT Security

Sustainability in Engineering Elective Cluster

(Choose any 2 subjects under this cluster)

- Green Urban Transportation & Energy Storage
- Life Cycle Analysis
- Renewable Energy Technologies
- Solar Photovoltaic Technology & Leasing

Industry Practice Elective Cluster # ^

- Guided Work-based Learning

University Pathway Programme (NUS/EE) # ^

- Electrical Engineering Principles & Practice
- Fundamentals of Physics
- Introductory Mathematics
- Programming Methodology

University Pathway Programme (NUS/ME) # ^

- Engineering Principles & Practice
- Fundamentals of Physics
- Introductory Mathematics
- Programming Methodology

University Pathway Programme (SUTD) # ^

- Computational Thinking for Design
- Modelling & Analysis
- Physical World
- Social Science: Understanding Behaviour, Culture & Society

University Pathway Programme (SMU/IS) # ^

- Algorithms & Programming
- Business Process Analytics & Solutioning

University Pathway Programme (SMU/CS) # ^

- Collaborative Software Development
- Mathematical Foundations of Computing

University Pathway Programme (SMU/SW) # ^

- Algorithms & Programming
- Operating Systems & Networking

Wafer Fabrication Process & Equipment Technologies

- Cleanroom & Vacuum Technology
- Wafer Fabrication Technology

Students are to choose one of these elective clusters

^ For selected students

TP Fundamentals (TPFun) Subjects

Gain crucial life skills to navigate the modern workplace as a future-ready individual and team player.

TPFun Core Subjects

- Career Readiness & Communication
- Current Issues & Critical Thinking
- Effective Personal Leadership
- Global Studies
- Innovation & Entrepreneurship
- Sports & Wellness
- Sustainability & Climate Action
- Student Internship Programme

TPFun Elective Subject

- Beyond the Classroom: Guided Learning

Career Opportunities

This course is strategically aligned with the Skills Framework and widely recognised across multiple sectors. It will help you succeed in advanced manufacturing fields, including aerospace, precision engineering, semiconductor production, and pharmaceutical manufacturing. As technology evolves, the course places a strong emphasis on sustainable engineering practices, ensuring that you are not only prepared to meet the industry's current demands but also poised to lead in setting new sustainability standards.

Potential jobs include:

- Aerospace Technologists
- Associate / Assistant / Application Engineers
- Development Technologists
- Equipment / Maintenance / Mechanical Engineers
- Manufacturing / Production / Process Control Engineers
- Research & Development Specialists
- Robot Coordinators

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



SUMMARY OF ENGINEERING COURSES & SPECIALISATIONS

DIPLOMA	SPECIALISATION
[T50] AEROSPACE ELECTRONICS	<ul style="list-style-type: none"> • Avionics Systems • CAAS-approved SAR-147 Licensed Aircraft Engineer Training • Flight Training
[T51] AEROSPACE ENGINEERING	<ul style="list-style-type: none"> • Airframe, Engines & Composites • CAAS-approved SAR-147 Licensed Aircraft Engineer Training • Flight Training
[T29] ARCHITECTURAL TECHNOLOGY & BUILDING SERVICES	<ul style="list-style-type: none"> • Building Information Modelling & Management • Digital Architecture • Environmental Sustainable Design • Green Energy Management
[T04] AVIATION MANAGEMENT	<ul style="list-style-type: none"> • Airline Business • Airport Management • Air Traffic Management • Flight Training & Operations
[T38] BIOMEDICAL ENGINEERING	<ul style="list-style-type: none"> • Audiometry & Hearing Devices • Clinical Practices • Healthcare Analytics • Medical Devices & Imaging • Medical Device Regulations
[T43] BUSINESS PROCESS & SYSTEMS ENGINEERING	<ul style="list-style-type: none"> • Business Processes & Analytics • Systems Engineering & Simulation
[T13] COMPUTER ENGINEERING	<ul style="list-style-type: none"> • Artificial Intelligence • Full Stack Development • Intelligent Automation • Internet of Things (IoT) • Virtual Reality (VR)
[T65] ELECTRONICS	<ul style="list-style-type: none"> • Aerospace Electronics • Industrial Artificial Intelligence • Intralogistics & Cybersecurity • Robotics • Semiconductor Technologies • Sustainability in Engineering
[T28] INTEGRATED FACILITY MANAGEMENT	<ul style="list-style-type: none"> • Project Management • Smart Technologies in Facilities Management • Sustainable Facilities Management Practices • Workplace Safety & Health Management
[T66] MECHATRONICS	<ul style="list-style-type: none"> • 3D Printing • Aerospace Systems • Advanced Manufacturing • Machine Vision & Pattern Recognition • Robotics & Automation • Sustainability in Engineering