# School of **Engineering**





BE SO MUCH MORE!

#Discover**RP** 

#### **SET YOUR EXPECTATIONS HIGH**

# BECAUSE WE WILL MEET THEM, AND MORE

Enter a world of learning and discovery with us as you acquire essential skills that will stay with you for life!

Republic Polytechnic (RP)'s holistic curriculum prepares you to take on real-life challenges and be ready for the dynamic working world when you graduate. Guided by experienced lecturers, you will have the opportunity to solve real-world problems while working in teams. With RP's Problem-based Learning approach, you will gain critical thinking, problem-solving and communication skills. These are pivotal skillsets that will help you to overcome challenges that you might face in the future.

Our internship programmes and industry partnerships will give you a taste of the working world, where you will gain valuable work experience and establish a network of contacts even before you graduate.

Your education in RP will help open up a world of possibilities and lifelong learning!

Get ready to discover your potential, achieve your dreams and embrace a transformative experience right here at RP because **we are so much more**.

# DISCOVER



#### **WIDE RANGE OF PROGRAMMES**

Choose from a variety of full-time diploma and lifelong learning courses from our seven schools



#### **100% INTERNSHIP PLACEMENT**

Gain real-world working experience with our established network of industry partners



#### STATE-OF-THE-ART FACILITIES

Resources that add to the top-notch experience

A distinctive and rigorous curriculum ensures that you are more than ready to shine in your chosen career. But we know you are looking for more than just robust instruction, so look forward to enriching your experience at RP with:



#### OVERSEAS STUDY TRIPS

A whole world waiting to be explored and to learn from



### COMMUNITY-BASED PROJECTS

Create positive impact in local and global communities



CO-CURRICULAR
ACTIVITIES
Indulge your interests or try something new



ACCLAIMED ARTS & MUSIC FESTIVALS

Held yearly to expand your cultural horizons

# MAKE SCHOOL OF ENGINEERING YOUR CHOICE

New and exciting projects?

Internship opportunities with renowned organisations?

Dedicated mentorship and guidance?

**School of Engineering (SEG)** checks all the boxes when it comes to a quality education.

Eager to make things happen and turn potential ideas into reality?

At RP SEG, you will learn to combine logic and imagination to become a resourceful problem-solver who can tackle real-world problems.

All SEG students enrolled in 2024 will have the unique opportunity to take up the Unmanned Aircraft Basic Training (UABT) e-learning course, accredited by the Civil Aviation Authority of Singapore (CAAS).

In addition, you will have the opportunity to attain the Unmanned Aircraft Pilot License (UAPL) if you are interested in flying Unmanned Aircraft. This credential will open doors to exciting career possibilities in the rapidly evolving Unmanned Aircraft industry.



COMMON ENGINEERING PROGRAMME

20 ENGINEERING SYSTEMS & MANAGEMENT

12 AEROSPACE ENGINEERING

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14 AVIATION MANAGEMENT

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16 ELECTRICAL & ELECTRONIC ENGINEERING

26 SUSTAINABLE BUILT ENVIRONMENT

18 ENGINEERING DESIGN WITH BUSINESS

### **ABOUT SCHOOL OF ENGINEERING**



**LEARN** from our inspiring team of lecturers who are committed to making your time meaningful and worthwhile.

At RP School of Engineering (SEG), you will be equipped with skillsets that prepare you to thrive in sectors such as air transport, aerospace, maritime, built environment, electronics, healthcare, and supply chain.

Look forward to gain expertise in multi-faceted areas beyond engineering. At SEG, we will harness your curiosity and guide you to transform ideas into viable solutions. Through their learning at SEG, students have attained achievements such as awards and accreditations respectively at international and industry platforms.

Upon graduation, you may choose to either pursue a fulfilling career in engineering-related fields or you may wish to further your studies in engineering disciplines or

other courses such as business management, computer science and others. Should you intend to embark on lifelong learning, SEG also offers full-qualification and short courses to support your learning needs.

Come join SEG to build your future! We offer a Common Engineering Programme and eight full-time diploma programmes where you can gain a well-rounded skillset to push boundaries and create practical solutions. They are:

- Aerospace Engineering
- Aviation Management
- Electrical & Electronic Engineering
- Engineering Design with Business
- Engineering Systems & Management
- Industrial & Operations Management
- Supply Chain Management
- Sustainable Built Environment

### **MINIMUM ENTRY REQUIREMENTS**

School of Engineering (SEG)	Aggregate Type	Minimum Entry Requirements/Grade		
	ELR2B2-C	a) English Language: D7		
		b) Mathematics (Elementary/Additional): C6		
All SEG Full-time Courses		c) Any one of the following subjects: C6		
Common Entry Programme in: • Engineering (R42)		Biology     Biotechnology     Chemistry     Computing / Computer Studies     Design & Technology	<ul> <li>Electronics/Fundamentals of Electronics</li> <li>Physics</li> <li>Science (Chemistry, Biology)</li> <li>Science (Physics, Biology)</li> <li>Science (Physics, Chemistry)</li> </ul>	
For the latest undates on entry requirements, visit www.rn.edu.ed/cod				

# HEAR FROM OUR INDUSTRY PARTNERS

The Diploma in Aviation Management (DAVM) programme covers many relevant areas which provide a good overview of the dynamic and innovation-driven aviation industry. I believe this programme will build a good foundation for students who are considering a career in aviation management.

#### **Mr Albert Lim**

Group Senior Vice President (Airport Operations Planning)
Changi Airport Group

This is a dynamic industry, blending a myriad of different disciplines that contribute to a more sustainable built environment. RP's Diploma in Sustainable Built Environment (DSBE) primes students for gainful careers, equipping them to shape the built environment of the future.

Fr. Yvonne Soh

Executive Director Singapore Green Building Council

Softing Singapore is proud to be a longstanding industry partner and now also a scholarship sponsor of RP. The Diploma in Engineering Design with Business (DEDB) encourages students to learn about the commercial and practical aspects of bringing real products to market, as well as the underlying technology. We see the benefits of this approach in the talented interns who work with us here at Softing, some of whom have gone on to become our full-time employees after their graduation. We look forward to a strong and mutually beneficial partnership with RP in the future.

### **Mr Simon Harrison**

General Manager Softing Singapore Pte Ltd The value of the Diploma in Electrical & Electronic Engineering (DEEE) programme lies in enhancing its graduates' versatility and readiness to work in varied sectors of the electrical and electronics industry. I believe DEEE graduates are the 'new age' engineers that companies like Philips need.

#### **Mr John Ngoh**

Director (Customer Services & Solutions)
Philips Healthcare

The Port of the Future is set to incorporate advanced automated and intelligent systems. To ensure students are prepared for this dynamic port environment, Republic Polytechnic's Diploma in Industrial & Operations Management (DIOM) curriculum equips students with sought-after expertise in designing, improving and managing business operations and resources while developing critical thinking and innovative problem-solving skills. We look forward to partnering Republic Polytechnic to prepare students for exciting and fulfilling careers in port management and operations.

Ms Evelyn Seah

Head of Human Resource
PSA Corporation Ltd

RP's Diploma in Engineering Systems & Management (DESM) provides a good foundation to develop engineering talent with the right skillsets matching the growing industrial needs in the areas of smart mobility and smart autonomous automation system. The Internet of Things has brought innovation not just to consumer products but is expected to "spill over" rapidly into the industrial area as well. The DESM has the right course contents in place and coupled with the aim to produce a multidisciplinary engineer, we're certain the students will be ready for the industry when they graduate.

#### **Mr Lieu Yew Fatt**

Managing Director Omron Electronics Pte Ltd I've had the pleasure to supervise and work closely with students from RP's Diploma in Aerospace Engineering (DAE) through internship programmes over the past years.

They're well-organised, hardworking and they possess good analytical skills. They were able to take on additional projects on top of their core projects. Their ability to pick up concepts and complete tasks and projects with minimal supervision is well-appreciated in the working environment.

I highly recommend RP students for the internship programme, opening the possibility to identify talent.

#### **Mr Christopher Forbes**

Technical Director Asia Polyurethane Manufacturing Pte Ltd

ST Logistics is honoured to be recognised as a valuable and leading industry partner of RP through our various collaborations over the last 10 years. One significant fruition of our partnership is the establishment of the ST Logistics-RP Healthcare Supply Chain Lab.

Students are provided authentic learning opportunities through exploration of the award-winning state-of-the-art Supply Chain Control Tower, as well as cross-disciplinary student projects related to healthcare supply chain management.

RP's unique Problem-based Learning approach has prepared its Diploma in Supply Chain Management (DSCM) and Specialist Diploma in Supply Chain Management (SDSCM) graduates with the relevant skillsets to take on future challenges of the supply chain domain. The future of supply chain is endless and beyond one's imagination; RP's cutting-edge education will prove the difference in today's landscape.

#### **Mr Fun Kum Wah**

Chief Operating Officer ST Logistics Pte Ltd

### **HEAR FROM OUR GRADUATES**

I've always dreamed of being a pilot, and the Diploma in Aviation Management (DAVM) has truly played a pivotal role in my life. The practical knowledge and skillsets that I've acquired. as well as the learning environment, have been instrumental in fuelling my passion. I'm happy to have attained my Private Pilot Licence from the Singapore Youth Flying Club through my internship.



Jensen Lim Wei Han Diploma in Aviation Management 2022 Graduate

A recipient of the Lee Kuan Yew Award for Mathematics and Science, Jensen was also inducted into the Director's Roll of Honour for four semesters and was awarded Module Prizes in Flight Operations Management and Airport Management. Jensen fulfilled his dream and attained his Private Pilot Licence with the Singapore Youth Flying Club where he also received the ST Engineering Excellence Award for graduating Best-in-Ground School. A scholar and a sportsman, Jensen captained the Athletics Interest Group and represented RP in the 51st Singapore Athletics Interclub Championship and in POL-ITE 2019/2020.

Razi graduated with a Diploma with Merit. He won the Lee Hsien Loong Interactive Digital Media Smart Nation Award in 2021 for developing a smart AI detection system for face recognition, mask detection, thermal scanning, and cigarette detection. He excelled during his internship and joined his internship company Advanced Micro Devices as an Associate Engineer upon graduation. He was then promoted to Product Engineer, where his work revolves around data analytics, building Tableau dashboards and other tools to analyse the test data to maximise yield.

During my time in RP, I was given many opportunities to grow and discover myself. RP's Diploma in Electrical & Electronic Engineering (DEEE) course equipped me with the relevant knowledge and skills for my career in the semiconductor industry. Entering the workforce, I don't find myself lost in a fast-paced working environment as RP has equipped me with the skills to think critically and enjoy learning at the same time.



**Mohammed Razi** Karappamveetil Rasheed

Diploma in Electrical & Electronic Engineering 2021 Graduate Currently working as a Product Engineer I've been given many opportunities to grow and discover myself. The unique programme has helped me uncover my strengths and passion, and has constantly challenged me to go beyond my comfort zone to learn, lead and experience holistically. I'm grateful for the support that has put me on track to excel.



Chow Ji How Diploma in Engineering Design with Business 2020 Graduate Currently pursuing Bachelor of Business Management at Singapore Management University

Ji How graduated from ITE with a Merit in Nitec in Aerospace Machining Technology. He was one of the three RP students to be given the opportunity to pursue his entrepreneurial aspirations, where he interned for a start-up company in Helsinki, Finland through the Global Entrepreneurial Immersion Programme. His final-year project – an interactive South West Natural Heritage Map was featured at the Bicentennial roadshow and was also published in the local newspaper, Lianhe Zaobao. Ji How received the Softing Scholarship Award in 2018 as well as Diploma Prize Awards in 2017 and 2018.

The insightful and practical modules taught in RP have helped solidify my foundation as I begin my journey in the supply chain industry. The knowledge and skills I acquired have greatly empowered me, and I'm fully confident of succeeding in the complex and challenging field of supply chain management.



During her time in RP, Tammy represented the school for WorldSkills Singapore (Freight Forwarding). She continued her studies at the Singapore University of Social Sciences (SUSS) and was selected for Maritime Youth Ambassador Programme by Marine Port Authorities Singapore. Tammy joined A.P. Moller Maersk as a CX cross-trade agent during her third year at the university. She was then offered a full-time position by C.H. Robinson.

# Tan Kai Zhen Tammy Diploma in Supply Chain Management 2019 Graduate Graduated with a Bachelor of Science in

Supply Chain Management with minor in International Trade with Singapore University of Social Sciences (SUSS) and working with C.H. Robinson



I developed valuable problem-solving skills during my time at RP, while gaining a practical understanding of our transport system. The knowledge and experience gained from my studies, coupled with the strong industry collaboration of the Diploma in Engineering Systems & Management (DESM), enabled me to have a successful internship with SMRT. This eventually helped me land my current job as a Station Manager with SMRT.

Nur Amira Natasya
Diploma in Engineering Systems & Management
2019 Graduate

Currently working as a Station Manager at SMRT TEL Pte Ltd

Amira did well during her internship with SMRT and continued to work in the company after her graduation. She was first employed as an Assistant Station Manager and was promoted to a Station Manager in two years. Amira was also given new responsibilities such as mentoring new trainees.



The one thing you can do in this life is to pursue your passion, learn from your mistakes and never give in to fear. Overcoming challenges now comes easy to me because my learning experience at RP has opened my eyes to exploring alternative ways of doing things.

Elaine Lua Fan Yi
Diploma in Renewable Energy Engineering
(now known as Diploma in Sustainable
Built Environment)
2015 Graduate
Currently working as a Manager in the

Currently working as a Manager in the Department of Certification & Technology at the Singapore Green Building Council Upon graduating from RP, Elaine, a recipient of the BCA-Industry Built Environment Diploma Sponsorship, joined the built environment industry as an assistant engineer in Kaer Pte Ltd. While interning at Kaer, she provided sustainable design solutions to help building owners attain Green Mark certification. Her efforts and contributions were well-recognised. In 2018, she joined Singapore Green Building Council as a manager, allowing her to further excel in her career.

Imran graduated from RP in 2015 with a GPA of 3.95. In 2019, he graduated with Second Class Upper Honours for his Bachelor of Science (Maritime Studies) degree. As an undergraduate, he had the opportunity to go to London for an exchange programme, during which he visited 15 counties and 22 cities. He also won the Global Internship Award and went to Marseille in France for an exciting overseas internship. He is currently employed at Maersk as a Stowage Planner.

The Diploma in Industrial & Operations Management (DIOM) could also be a 'Diploma in Identifying Opportunities through Multi-Disciplines'... At RP, I was given many opportunities. Guided by helpful lecturers and being exposed to practical learning experiences, this is where I found my passion for the maritime industry. DIOM has prepared me well with its emphasis on productivity and being forward-thinking and this truly helps me to value-add in any job.

I appreciate every moment spent in RP. The lecturers are exemplary role models with a wealth of experience and ideas. I can proudly testify that RP has given me a strong foundation to overcome real-life challenges.

Muhammad Imran B MD Zin Diploma in Industrial & Operations Management 2015 Graduate Currently working as a

Stowage Planner at Maersk



After graduating from RP, Selvaraj continued his studies at the Singapore Institute of Technology (SIT). He earned First Class Honours for his Bachelor of Engineering (Aeronautical Engineering) degree in 2015. Now an Engineer with ST Aerospace Services, Selvaraj oversees the engineering support for structural repair and modification work on a wide range of commercial aircraft.



# Selvaraj Pichamuthu Diploma in Aerospace Engineering 2013 Graduate

Currently working as an Assistant Principal Engineer (Aircraft Structures, Engineering Service Department) at ST Aerospace Services Co Pte Ltd

# GAIN A MAJOR HEAD START WITH OUR MINORS





Embark on exciting career pathways with versatile cross-sector skills, future-ready capabilities and gain a foothold in the most dynamic sectors!

RP primes you for success in a VUCA (Volatile, Uncertain, Complex, and Ambiguous) world. Our Minor Programmes offer an additional area of study outside of your diploma's discipline\* and are designed to make you a competitive player across diverse fields!

Create value, innovate and enhance systems, and drive change for a brighter future, wherever you choose to go!

Each Minor Programme consists of 12 Modular Credits (MCs) in total. You will need to take two extra modules on top of the requirements for your diploma.

2 Modules (total of 4 MCs)

Choose **two relevant modules** from the list of Freely Chosen Modules.



2 Modules (total of 8 MCs)

Choose **two modules** from the list for the respective Minor Programme.



Equip yourself with real-world business skills that help you add value and generate profits for your organisation.

Select two modules from the list of Freely Chosen Modules in the Business category and two modules from the following list:

**B101** Entrepreneurship

**B109** Design Thinking for Business Innovation

**B215** Financial Accounting

**H323** Hospitality Revenue Management

**T262** Introduction to User Experience



### Minor in DIGITALISATION

Develop your skills in digital technologies such as Augmented Reality (AR), Virtual Reality (VR) and IoT (Internet of Things) to enhance your organisation's business processes.

Select two modules from the list of Freely Chosen Modules in the Digitalisation category and two modules from the following list:

C110 Programming Fundamentals I

**E115** Programming and Data Analysis

**E118** Fundamentals of Industrial Internet of Things

**H224** Customer Analytics

**T376** Design with Emerging Technology



Be well-placed to help organisations make sustainability an integral part of their business strategy.

Select two modules from the list of Freely Chosen Modules in the Sustainability category and two modules from the following list:

**A225** Earth and Climate Science

**A324** Resource Management and Circular Economy

**E315** Energy Management and Sustainability

**H228** Sustainability in Events

**T378** Spatial and Environment Design

\*Your chosen Minor Programme has to be differentiated from your diploma course. You will still be required to fulfil the graduation requirements for your diploma.

For more information, visit www.rp.edu.sg/minor-programmes

# COMMON ENGINEERING PROGRAMME



# BE FLEXIBLE AND KEEP YOUR OPTIONS OPEN AS YOU EXPLORE INFINITE POSSIBILITIES IN ENGINEERING.

- Probe deeper to discover your interests
- Gain foundational understanding through first year first semester modules and activities
- Find out about the eight different engineering diplomas for a clearer picture of your options



In your first semester, you will study the following modules:

#### **General Modules**

- Critical Thinking and Problem Solving Skills
- ECG I: Exploring the Future of Work
- Innovation and Practice
- Life Skills I
- Singapore, the World and I

#### **Discipline Modules**

- Engineering Design
- Mathematics
- Physics

From the second semester, you will study the modules that belong to the SEG diploma programme you are posted to.

#### **ABOUT THE PROGRAMME**

The first semester of your first year in SEG opens your eyes to the amazing potential in engineering, when you get on board the Common Engineering Programme. Sample our various diploma offerings and get a clear overview of your options for future education.

You are bound to find the course that best suits you from among these engineering diploma programmes:

- Aerospace Engineering
- Aviation Management
- Electrical & Electronic Engineering
- Engineering Design with Business

- Engineering Systems & Management
- Industrial & Operations Management
- Supply Chain Management
- Sustainable Built Environment

Explore and gain a solid foundation in engineering. With essential skills and knowledge gained, you will be able to make an informed choice on the engineering programme to embark on!

### **AEROSPACE ENGINEERING** (R40)





#### YOUR RUNWAY TO BECOMING A LICENSED AIRCRAFT ENGINEER.

- Gain a solid foundation in aircraft structural maintenance and in engine maintenance and repair
- Understand the complexities of aerospace engineering and safety protocols
- Undergo a 20-week Industry Immersion Programme with aerospace companies such as Pratt & Whitney, StandardAero, ST Engineering Aerospace, UTC Aerospace Systems, and Turbine Overhaul Services or 24 weeks of Aerospace Engineering Skills Training



#### **General Modules**

- Communication in the Global Workplace
- Critical Thinking and Problem Solving Skills
- ECG I: Exploring the Future of Work
- ECG II: Becoming Future-Ready
- Innovation and Practice
- Life Skills I
- Life Skills II
- Life Skills III
- Singapore, the World and I

#### **Discipline Modules**

- Aerodynamics and Propulsion\*
- Digital Techniques and Electronic Instrument Systems\*
- Digital Techniques and Electronic Instrument Systems II\*
- Electrical and Electronic Fundamentals\*
- Electrical and Electronic Fundamentals II\*
- **Engineering Design**
- Engineering Materials\*
- **Engineering Mathematics**
- Fundamentals of Industrial Internet of Things
- Mathematics
- **Physics**
- Principles of Mechanics\*
- Programming and Data Analysis
- Thermofluids\*

#### **Specialisation Modules**

- Aircraft Inspection\*
- Airframe Structures and Engine Systems
- Aviation Legislation and Human Factors\*
- Aviation Maintenance Practices\*

#### **Elective Modules**

#### Select one module from the list below:

- Aircraft Hardware\*
- Aircraft Instrument and Avionic Systems
- Communication Systems
- Lean Manufacturing and Six Sigma

#### **Industry Orientation Programme**

Project

#### Select one module from the list below:

- Aerospace Engineering Skills Training\*
- Corporate Innovation Immersion Programme
- **Entrepreneurial Immersion** Programme
- Industry Immersion Programme

#### **Freely Chosen Modules**

Students need to either select the Special Project module or select two modules from a list of Freely Chosen Modules.

\*Note: Denotes Singapore Airworthiness Requirements Part 66 (SAR-66) modules

#### **CAREER OPPORTUNITIES**

With a solid foundation in technical skills, you are poised to take up a comprehensive range of careers in the aviation industry. You will be able to pursue opportunities in roles such as:

- Aircraft Avionics System Specialist
- Airframe and Engine Inspector
- Assistant Engineer
- Fleet Management Planner
- Licensed Aircraft Engineer
- Material/Production Planner
- Non-Destructive Testing Inspector
- Quality Control Inspector
- **Technical Support Personnel**
- Workshop Engineer



The Diploma in Aerospace Engineering (DAE) is an approved Singapore Airworthiness Requirements Part 147 (SAR147) Maintenance Training Organisation offering SAR-66 Aircraft Maintenance Licence basic training course (Module 1 to Module 10) for combined B1 (Airframe and Engine) and B2 (Avionics) Categories.

You will be trained in the state-of-the-art hangar with authentic aircraft, engines, aircraft simulators, and equipment which will expose you to the Maintenance, Repair and Overhaul business in the Aerospace industry. In this course, you will be able to grow your passion for aerospace by having hands-on access activities on the aircraft and skills training in the hangar. You can further use your technical skills with first-hand exposure during exciting internships.

Look forward to industrial attachments at leading aviation companies such as Pratt & Whitney, StandardAero, ST Engineering Aerospace, Bombardier Aerospace Services, and more!

#### **FURTHER STUDIES**

#### **Discover exciting opportunities for further studies!**

The Diploma in Aerospace Engineering's broad curriculum gives our graduates the flexibility to further their studies in a variety of engineering fields, including mechanical engineering, electrical engineering and aeronautical engineering at local universities such as the National University of Singapore, Nanyang Technological University, Singapore Institute of Technology, and Singapore University of Social Sciences.

You can also pursue degrees at overseas universities in Australia, New Zealand and the United States such as:

- Auckland University of Technology (New Zealand)
- Edith Cowan University (Australia)
- Embry Riddle Aeronautical University (United States)
- Royal Melbourne Institute of Technology (Australia)
- The University of Adelaide (Australia)
- The University of Queensland (Australia)
- The University of Western Australia (Australia)

### **AVIATION MANAGEMENT** (R39)



# ACHIEVE YOUR ASPIRATIONS IN THE AIR TRANSPORT SECTOR.

- Master a spectrum of skills from flight operations and air traffic control to terminal management and ground services
- Gain knowledge about aircraft systems, airport operations and aviation safety
- Experience being an air transport professional through our 20-week Industry Immersion Programme with world-class organisations such as Changi Airport Group, dnata, Jetstar Asia, SATS, and Singapore Airlines



#### **General Modules**

- Communication in the Global Workplace
- Critical Thinking and Problem Solving Skills
- ECG I: Exploring the Future of Work
- ECG II: Becoming Future-Ready
- Innovation and Practice
- Life Skills I
- Life Skills II
- Life Skills III
- Singapore, the World and I

#### **Discipline Modules**

- Aerodynamics and Propulsion
- Airline Operations
- Distribution and Transportation
- Engineering Cost Decisions
- Engineering Design
- Engineering Mathematics
- Fundamentals of Industrial Internet of Things
- General Aircraft Systems
- Mathematics
- Operations Planning
- Physics
- Programming and Data Analysis
- Statistical Methods for Engineering

#### **Specialisation Modules**

- Airport Management
- Airport Planning and Design
- Airside Operations and Air Traffic Management
- Flight Operations Management
- Human Factors and Aviation Safety

#### **Elective Modules**

#### Select one module from the list below:

- Microeconomics
- Operations Planning II
- Service Quality and Professional Etiquette
- Warehousing and Storage

#### **Industry Orientation Programme**

Project

#### Select one module from the list below:

- Corporate Innovation Immersion Programme
- Entrepreneurial Immersion Programme
- Industry Immersion Programme

#### **Freely Chosen Modules**

Students need to either select the Special Project module or select two modules from a list of Freely Chosen Modules.

#### **CAREER OPPORTUNITIES**

You will be well-positioned to pursue exciting careers in the air transport sector such as:

- Air Operations Centre Manager
- Air Traffic Control Officer
- Airline Flight Controller
- Airside Duty Manager
- Airside Officer
- Cabin Crew
- Customer Services Officer
- Duty Terminal Manager
- Ground Services Officer
- Passenger Services Officer
- Pilot



Be a high-flyer in the air transport sector! The Diploma in Aviation Management (DAVM) equips you with specialist and management skills sought by international airlines and airports worldwide.

Experience flying in the DA40 Aircraft Flight Simulators. Acquire air traffic management skills when you role-play as an air traffic controller in the Virtual Aerodrome Laboratory.

Apply the knowledge and skills to real-world scenarios when you work on industry projects and engage in stimulating internships with leading aviation companies.

Take your abilities to new heights with the opportunity to earn your Private Pilot Licence with the Singapore Youth Flying Club.

#### **FURTHER STUDIES**

#### **Discover exciting opportunities for further studies!**

Top local and overseas universities welcome our graduates with advanced standing of up to two years.

#### They include:

- Australian National University (Australia)
- Embry-Riddle Aeronautical University (US)
- Massey University (New Zealand)
- Nanyang Technological University
- National University of Singapore
- RMIT University (Australia)
- Singapore Institute of Technology
- University of New South Wales (Australia)
- University of South Australia (Australia)

### **ELECTRICAL & ELECTRONIC**

### ENGINEERING (R50)





#### **MAKE YOUR MARK AS A PROBLEM-SOLVER** IN THE TECHNICAL REALM.

- Achieve a broad-based foundation in electrical and electronics. applications across specialities such as communications, aerospace electronics and microelectronics
- Participate in R&D projects with industry-leading companies and gain valuable industry experience
- © Embark on a 20-week Industry Immersion Programme with an optional extension of 16 weeks with companies such as Airbus Helicopters Southeast Asia, GlobalFoundries, Micron Semiconductor Asia. Panasonic, Rohde & Schwarz Asia, Sennheiser, Signify, Singtel, and Thales Solutions Asia



#### **General Modules**

- Communication in the Global Workplace
- Critical Thinking and Problem Solving Skills
- ECG I: Exploring the Future of Work
- ECG II: Becoming Future-Ready
- Innovation and Practice
- Life Skills I
- Life Skills II
- Life Skills III
- Singapore, the World and I

#### **Discipline Modules**

- Artificial Intelligence in Engineering
- Circuit Analysis and Control
- Computer Programming
- Digital Electronics
- Electrical and Electronic **Fundamentals**
- Electronic Design and Development
- **Electronic Devices and Circuits**
- **Engineering Design**
- **Engineering Mathematics**
- Fundamentals of Industrial Internet of Things
- Mathematics
- Microcontroller Systems
- **Physics**
- Programming and Data Analysis

#### **Specialisation Modules**

Choose one out of three specialisation tracks listed below:

#### **Option: Aerospace Electronics Track**

- Aerodynamics and Propulsion
- Aircraft Electrical Systems
- Aircraft Instrument and Avionic Systems
- Auto-flight Systems

#### **Option: Communications Track**

- Communication Systems
- **Data Communications**
- **Embedded Systems**
- Mobile Communications

#### **Option: Microelectronics Track**

- Electronic and Semiconductor Materials
- Measurement Techniques and Failure Analysis
- Thin Film Technology
- Wafer Fabrication and Packaging

#### **Elective Modules**

#### Select one module from the list below:

- **Automation Systems**
- **Aviation Maintenance Practices**
- Data Acquisition and Sensors
- Human Factors and Aviation Safety
- Integrated Circuit Design and Layout

#### **Industry Orientation Programme**

Project

#### Select one module from the list below:

- Corporate Innovation Immersion Programme
- **Entrepreneurial Immersion** Programme
- Industry Immersion Programme
- Industry Immersion Programme II

#### **Freely Chosen Modules**

Students need to either select the Special Project module or select two modules from a list of Freely Chosen Modules.

#### **CAREER OPPORTUNITIES**

You can look forward to excellent career prospects across a wide range of digital and electronics industries in roles such as:

- Assistant Equipment Engineer
- Assistant Facility Engineer
- Assistant Integration Engineer
- Assistant Process Engineer
- Assistant Product Engineer
- Assistant Quality Engineer



A broad and flexible education in the engineering disciplines widen your career choices. Discover key growth areas in aerospace electronics, communications and microelectronics and get ready for an opportunity-filled future!

Enrol in our Diploma in Electrical and Electronic Engineering (DEEE) and upskill with cutting-edge technology in our modern laboratories, then go beyond the classroom to gain valuable real-world experiences with our partner associations and companies.

We help you secure coveted internships with major players in the engineering sector. You will work on stimulating R&D projects with impressive industry partners such as Airbus Helicopters Southeast Asia, GlobalFoundries, Micron Semiconductor Asia, Panasonic, Rohde & Schwarz Asia, Sennheiser, Signify, Singtel, and Thales Solutions Asia.

Emerge knowledgeable and versatile with industryrelevant skills that will set you up for a rewarding career!

#### **FURTHER STUDIES**

#### **Discover exciting opportunities for further studies!**

As a Diploma in Electrical and Electronic Engineering (DEEE) graduate, you can pursue a wide range of degree programmes. Our diploma programme is designed to meet the requirements for advanced standing in local and overseas institutions of higher learning including the National University of Singapore, Nanyang Technological University, Singapore University of Social Sciences, Singapore Institute of Technology, Singapore Management University, and Singapore University of Technology and Design.

Overseas universities include:

- Australian National University (Australia)
- Newcastle University (UK)
- The University of Nottingham (UK)
- The University of Western Australia (Australia)
- University of Leeds (UK)
- University of New South Wales (Australia)
- University of South Australia (Australia)
- University of Southampton (UK)
- University of Strathclyde (UK)

# ENGINEERING DESIGN WITH BUSINESS (R56)



#### BE THE VISIONARY ENGINEER, PRODUCT DESIGNER AND ENTREPRENEUR OF TOMORROW.

- Acquire an extensive base of design thinking, engineering and business application skills
- Gain practical skills and proficiency through hands-on training in our design studio and engineering lab
- Undergo a 20-week Industry Immersion Programme at leading product design companies and product improvement departments of MNCs and SMEs



#### **General Modules**

- Communication in the Global Workplace
- Critical Thinking and Problem Solving Skills
- ECG I: Exploring the Future of Work
- ECG II: Becoming Future-Ready
- Innovation and Practice
- Life Skills I
- Life Skills II
- Life Skills III
- Singapore, the World and I

#### **Discipline Modules**

- Computer Programming
- Digital Electronics
- Electrical and Electronic Fundamentals
- Electronic Devices and Circuits
- Engineering Cost Decisions
- Engineering Design
- Engineering Mathematics
- Entrepreneurship
- Fundamentals of Industrial Internet of Things
- Innovation and Design Thinking
- Marketing
- Mathematics
- Physics
- Principles of Mechanics
- Programming and Data Analysis

#### **Specialisation Modules**

- Mechatronic Systems and Design
- Product Design and Prototyping
- Project Management

#### **Elective Modules**

#### Select one module from the list below:

- Artificial Intelligence in Engineering
- Digital Marketing and eCommerce
- Human Factors Engineering
- Introduction to User Experience

#### **Industry Orientation Programme**

Project

#### Select one module from the list below:

- Corporate Innovation Immersion Programme
- Entrepreneurial Immersion Programme
- Industry Immersion Programme

#### **Freely Chosen Modules**

Students need to either select the Special Project module or select two modules from a list of Freely Chosen Modules.

#### **CAREER OPPORTUNITIES**

You can look forward to excellent career prospects across a wide range of digital and electronics industries in roles such as:

- Assistant Engineer (Equipment)
- Assistant Engineer (Product Design & Development)
- Assistant Project Engineer
- Business Development Executive
- Entrepreneur
- Sales and Marketing Executive



Fusing core concepts of engineering, finance, function, aesthetics and lifestyle, the Diploma in Engineering Design with Business (DEDB) equips you with the know-how to transform your entrepreneurial dreams into a viable business plan.

Through DEDB, you will gain essential skills and knowledge in both business and engineering aspects that will give you a head start to launch your start-up ideas in various industries.

You will be exposed to practical learning experience and the opportunity to further hone your creativity when you undergo internship at established companies.

DEDB's multidisciplinary perspective will prepare you well to be an integral part of Singapore's new innovationdriven economy.

#### **FURTHER STUDIES**

#### **Discover exciting opportunities for further studies!**

You can pursue further studies in a wide range of engineering and business fields. Top local and overseas universities welcome our graduates with advanced standing.

#### They include:

- Nanyang Technological University
- National University of Singapore
- Queensland University of Technology (Australia)
- Singapore Institute of Technology
- The University of Queensland (Australia)

# DIPLOMA IN ENGINEERING SYSTEMS & MANAGEMENT (R54)



# SHINE AS A MULTI-FACETED ENGINEER CAPABLE OF MANAGING COMPLEX ENGINEERING SYSTEMS.

- Pick up extensive knowledge and essential hands-on skills in electrical, electronic and mechanical engineering to manage complex engineering systems
- Gain comprehensive project management skills and become a well-rounded engineering professional
- © Go for a 20-week Industry Immersion Programme with an optional extension of 16 weeks, with leading companies in the areas of essential services such as land transportation, intelligent systems and emerging technologies



#### **General Modules**

- Communication in the Global Workplace
- Critical Thinking and Problem Solving Skills
- ECG I: Exploring the Future of Work
- ECG II: Becoming Future-Ready
- Innovation and Practice
- Life Skills I
- Life Skills II
- Life Skills III
- Singapore, the World and I

#### **Discipline Modules**

- Artificial Intelligence in Engineering
- Automation Systems
- Digital Electronics
- Electrical and Electronic Fundamentals
- Electronic Devices and Circuits
- Engineering Design
- Engineering Materials
- Engineering Mathematics
- Fundamentals of Industrial Internet of Things
- Mathematics
- Modern Systems Engineering
- Physics
- Principles of Mechanics
- Programming and Data Analysis
- Project Management

#### **Specialisation Modules**

- Autonomous Systems and Vehicle Control
- Rail Operations Management
- Robotics and Machine Vision

#### **Elective Modules**

#### Select one module from the list below:

- Data Acquisition and Sensors
- Fleet Management
- Social Innovation and Creativity
- Transportation Facilities Planning and Design

#### **Industry Orientation Programme**

Project

#### Select one module from the list below:

- Corporate Innovation Immersion Programme
- Entrepreneurial Immersion Programme
- Industry Immersion Programme
- Industry Immersion Programme II

#### **Freely Chosen Modules**

Students need to either select the Special Project module or select two modules from a list of Freely Chosen Modules.

#### **CAREER OPPORTUNITIES**

You will unlock a world of unlimited career opportunities in the dynamic fields of intelligent systems, smart automation systems and urban land transport solutions with roles such as:

- Assistant Train Station Manager
- Automation and Robotics Assistant Engineer
- System Assistant Engineer
- Urban Transport Operators/ Assistant Engineers



From logistics to intelligent systems, you will be able to take on any engineering projects with confidence. The Diploma in Engineering Systems & Management (DESM) equips you with project management, systems thinking and problem-solving skills, on top of engineering expertise in emerging technologies.

The interdisciplinary knowledge you gain will help you assess the interdependency of connected systems in large-scale projects.

Learn about automation, robotics and land transport systems, as well as the technical hardware, programming and operational artistry behind them. You will also learn how social and economic policies impact engineering decisions.

Acquire practical learning experiences when you embark on an internship programme which will prepare you to competently manage and execute projects of any scale.

#### **FURTHER STUDIES**

#### **Discover exciting opportunities for further studies!**

You can pursue further studies in a wide range of engineering and business fields. Top local and overseas universities welcome our graduates with advanced standing of up to two years.

#### They include:

- Nanyang Technological University
- National University of Singapore
- Singapore Institute of Technology

## **INDUSTRIAL & OPERATIONS MANAGEMENT** (R11)





#### **CRAFT OPERATIONAL** STRATEGIES THAT CAN TRANSFORM BUSINESSES.

- Develop competencies in costing, human factors, Lean Six Sigma, operations planning, project and quality management principles to help optimise business processes and boost productivity
- Achieve industry-relevant certifications such as Certified AutoCAD Professional and UiPath Academic Diploma in RPA Citizen Developer
- © Experience a 20-week Industry Immersion Programme with well-known organisations such as Cummins, McKinsey, NTUC, OCBC Bank, PSA International, Seagate, Select Group, and Volvo



#### **General Modules**

- Communication in the Global Workplace
- Critical Thinking and Problem Solving Skills
- ECG I: Exploring the Future of Work
- ECG II: Becoming Future-Ready
- Innovation and Practice
- Life Skills I
- Life Skills II
- Life Skills III
- Singapore, the World and I

#### **Discipline Modules**

- **Engineering Cost Decisions**
- **Engineering Design**
- **Engineering Mathematics**
- Facilities Planning and Design
- Fundamentals of Industrial Internet of Things
- Inventory Management
- Manufacturing Planning and Control
- Mathematics
- **Operations Planning**
- Operations Planning II
- **Physics**
- Programming and Data Analysis
- Statistical Methods for Engineering

#### **Specialisation Modules**

- Human Factors Engineering
- Lean Manufacturing and Six Sigma
- Project Management
- Quality and Reliability Engineering
- Quality Management

#### **Elective Modules**

#### Select one module from the list below:

- Distribution and Transportation
- Human Resource Management
- Management Accounting
- Supply Chain Management

#### **Industry Orientation Programme**

Project

#### Select one module from the list below:

- Corporate Innovation Immersion Programme
- **Entrepreneurial Immersion** Programme
- Industry Immersion Programme

#### **Freely Chosen Modules**

Students need to either select the Special Project module or select two modules from a list of Freely Chosen Modules.

#### CAREER OPPORTUNITIES

You can seek fulfilling careers across a wide spectrum of industries and government agencies in roles such as:

- Business/Human Resource/ Planning Executive
- **Business Process Analyst**
- Demand/Material/Production Planner
- Industrial Engineering Specialist
- Logistics/Supply Chain/ Procurement Executive
- Operations Executive
- Productivity/Operations Excellence Team Lead
- Project Manager
- Quality Technologist
- Safety/Facilities Officer



The Diploma in Industrial & Operations Management (DIOM) equips you with the expertise to design, improve, oversee, and manage companies' business operations and resources — skills that are in demand in today's workplaces.

Be primed to devise practical solutions for organisations to address industry challenges such as meeting productivity targets and navigating an ageing workforce.

Learn to develop integrated solutions across multiple sectors, cultivate specialist knowledge in human factors, Lean Six Sigma, operations planning, project and quality management, and gain exposure to human resource management, supply chain management, finance, and entrepreneurship.

Acquire essential technical skills in our six high-tech laboratories using specialised software and tools and be exposed to practical hands-on sessions in a replicated industry environment.

Through our strong collaborations with established industry partners, you will have the opportunity to embark on real-life industry final-year projects, local and overseas internships and achieve professional certification as you progress.

You will be well-poised to play a pivotal role in addressing operational challenges faced by businesses.

#### **FURTHER STUDIES**

#### **Discover exciting opportunities for further studies!**

As a Diploma in Industrial & Operations Management (DIOM) graduate, you can pursue a wide range of degree programmes in areas such as:

- Engineering (e.g., Industrial and Systems, Systems Design, Human Factors, Computer, Maritime Studies, Manufacturing, Civil, Marine and Mechanical)
- Business (e.g., Administration, Accounting, Analytics, Commerce, and Economics)
- Management (e.g., Infrastructure and Project, Supply Chain, Human Resource, and Operations)

The diploma is designed to meet the requirements for advanced standing in relevant courses at local institutions of higher learning, including the National University of Singapore, Nanyang Technological University, Singapore University of Social Sciences, Singapore Institute of Technology, Singapore Management University, and Singapore University of Technology and Design.

You can also gain advanced standing in many top tier overseas universities such as:

- Australian National University (Australia)
- The University of Adelaide (Australia)
- University of Birmingham (UK)
- University of Leeds (UK)
- University of Liverpool (UK)
- University of New South Wales (Australia)

## **SUPPLY CHAIN**

### MANAGEMENT (R21)





#### JOIN THE DOTS IN A CONNECTED **GLOBAL MARKETPLACE, WITH A FIRM** UNDERSTANDING OF THE SUPPLY CHAIN.

- Develop a solid understanding of facilities planning, inventory management, IT for supply chain management, logistics, transportation, and warehousing
- Attain a well-rounded education that builds technical capabilities. instils specialised knowledge and provides exposure to concepts related to Supply Chain Management
- Undergo a 20-week Industry Immersion Programme with companies such as such as Bollore, DHL, Kuehne+ Nagel, Leschaco, LF Logistics, Schneider Electric, ST Logistics, and Toll Group



#### **General Modules**

- Communication in the Global Workplace
- Critical Thinking and Problem Solving Skills
- ECG I: Exploring the Future of Work
- ECG II: Becoming Future-Ready
- Innovation and Practice
- Life Skills L
- Life Skills II
- Life Skills III
- Singapore, the World and I

#### **Discipline Modules**

- Distribution and Transportation
- **Engineering Cost Decisions**
- **Engineering Design**
- **Engineering Mathematics**
- Facilities Planning and Design
- Fundamentals of Industrial Internet of Things
- Inventory Management
- Mathematics
- **Operations Planning**
- Operations Planning II
- **Physics**
- Programming and Data Analysis
- Statistical Methods for Engineering

#### **Specialisation Modules**

- IT for Supply Chain Management
- Lean Manufacturing and Six Sigma
- Procurement and Supplier Development
- Supply Chain Management
- Warehousing and Storage

#### **Elective Modules**

#### Select one module from the list below:

- Cold Chain and Pharmaceutical Supply Chain
- **Human Factors Engineering**
- Retail Logistics

#### **Industry Orientation Programme**

Proiect

#### Select one module from the list below:

- Corporate Innovation Immersion Programme
- **Entrepreneurial Immersion** Programme
- Industry Immersion Programme

#### **Freely Chosen Modules**

Students need to either select the Special Project module or select two modules from a list of Freely Chosen Modules.

#### **CAREER OPPORTUNITIES**

Look forward to building dynamic careers at all levels of the supply chain across a wide range of industries. You will be in a good position to pursue careers such as:

- Executive (Logistics & Operations)
- Fulfilment Executive
- Inventory and Warehouse Executive
- Logistics Solution Analyst
- Marketing and Customer Service Executive
- **Operations Controller**
- Procurement Executive
- Product Development Executive
- Regional Trade Executive
- Supply Chain Executive
- Supply Chain Management Trainee
- Trade Executive



The Diploma in Supply Chain Management (DSCM) covers the intricacies of every aspect of facilities planning, inventory management, logistics, transport, and warehousing.

Through DSCM, you will learn the ropes in the processes and practicalities behind the movement of goods, information and finances in the supply chain industry.

You will gain a solid understanding on how suppliers, manufacturers, distributors, and retailers come together in international trade.

You will also acquire knowledge in digitalisation and technology trends that are revolutionising supply chain operations. Embrace the opportunity to learn about specialised logistics verticals, namely, retail logistics and cold chain management of pharmaceutical products such as vaccines and medicines.

Learn in our advanced laboratories, the RP Centre of Innovation for Supply Chain Management and from real-life operations. You will master the use of digitalisation in up-to-date supply chain and productivity technologies to become adept at managing the movement of products globally.

In addition, local and overseas internship opportunities bring you behind the scenes at prominent organisations. You will also be given the opportunity to learn from established companies such as Bollore, DHL, Kuehne+ Nagel, Leschaco, LF Logistics, Schneider Electric, ST Logistics, and Toll Group.

#### **FURTHER STUDIES**

#### **Discover exciting opportunities for further studies!**

As a Diploma in Supply Chain Management (DSCM) graduate, you can pursue a wide range of degree programmes in management (e.g., Supply Chain Management and Operations), business (e.g., Administration, Analytics, Commerce, Accounting and Economics), engineering (e.g., Maritime Studies, Industrial and Systems, Systems Design, Manufacturing), and many more.

The diploma is designed to meet the requirements for advanced standing in relevant degree programmes at local and overseas institutions of higher learning, including the National University of Singapore, Nanyang Technological University, Singapore Institute of Technology, Singapore Management University, and Singapore University of Technology and Design. We also have advanced standing arrangements with overseas institutions in Australia and New Zealand such as:

- Auckland University of Technology (New Zealand)
- The University of Queensland (Australia)
- University of South Australia (Australia)
- University of Wollongong (Australia)

You can also choose to pursue the degree programme in logistics and supply chain management at Singapore University of Social Sciences.

# SUSTAINABLE BUILT ENVIRONMENT (R61)



# FLOURISH IN THE BUILT ENVIRONMENT INDUSTRY WITH THIS DIPLOMA.

- Acquire expertise in the latest digital and smart technologies for the Built Environment and Architecture Construction Engineering industry
- Achieve industry-relevant certifications such as Revit Architecture Certified User and/or Certified Professional and Digital Delivery Management (DDM) Tier 4 Provisional Accreditation
- Experience working with organisations such as Building and Construction Authority (BCA), Daikin Airconditioning, Sunseap Group, Fluke South East Asia, and the Solar Energy Research Institute of Singapore through a 20-week Industry Immersion Programme



#### **General Modules**

- Communication in the Global Workplace
- Critical Thinking and Problem Solving Skills
- ECG I: Exploring the Future of Work
- ECG II: Becoming Future-Ready
- Innovation and Practice
- Life Skills I
- Life Skills II
- Life Skills III
- Singapore, the World and I

#### **Discipline Modules**

- Building Electrical Systems
- Design and Modelling for Building Services
- Design for Manufacturing and Assembly
- Electrical and Electronic Fundamentals
- Engineering Design
- Engineering Mathematics
- Fundamentals of Industrial Internet of Things
- Health and Safety for Building Services
- Mathematics
- Physics
- Programming and Data Analysis
- Smart Facilities Management
- Technologies for Integrated Digital Delivery

#### **Specialisation Modules**

- Building Air-Conditioning and Mechanical Ventilation
- Building Information Modelling
- Energy Management and Sustainability
- Green Building Technology and Design
- Intelligent Systems for Building

#### **Elective Modules**

#### Select one module from the list below:

- Engineering Cost Decisions
- Human Factors Engineering
- Principles of Mechanics
- Project Management

#### **Industry Orientation Programme**

Project

#### Select one module from the list below:

- Corporate Innovation Immersion Programme
- Entrepreneurial Immersion Programme
- Industry Immersion Programme

#### **Freely Chosen Modules**

Students need to either select the Special Project module or select two modules from a list of Freely Chosen Modules

#### **CAREER OPPORTUNITIES**

You are well-placed to take on various engineering positions in Built Environment Industry such as:

- Assistant Engineer (Mechanical/ Electrical)
- Assistant Engineer (Sustainable Design)
- BIM Modeller/Coordinator
- Facilities Executive Assistant
- Specialist in BIM and Digital Delivery



Looking forward to a flourishing career in the Built Environment and Architecture Construction Engineering industry?

The Diploma in Sustainable Built Environment (DSBE) introduces the latest digital and smart technologies into the curriculum to transform students to take up a wide range of job roles in the exciting and future-ready Built Environment and Architecture Construction Engineering industry.

With DSBE, you will acquire in-depth knowledge of Integrated Digital Delivery (IDD), Virtual Design and Construction (VDC), Environmental Sustainability Design, Smart Buildings, and Facilities Management. Riding on the wave of the digital revolution and rapid urbanisation, you will be using the Building Information Modelling (BIM) to simulate the performance of buildings and integrate work processes.

You will also gain access to cutting-edge equipment as you learn in our joint laboratories supported by leading companies from the industry.

#### **FURTHER STUDIES**

#### **Discover exciting opportunities for further studies!**

RP graduates are well-placed to embark on meaningful careers, immediately after graduation. They are also able to improve their employability by taking part-time courses or SkillsFuture Work-Study Programmes.

What's more, every RP diploma is recognised and has a pathway leading to a relevant degree with top local and overseas universities. RP graduates may complete their degrees in just over two or three years in a four-year programme.

9 Woodlands Ave 9, Singapore 738964 | 6510 3000 | www.rp.edu.sg

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