

# AERONAUTICAL ENGINEERING

## DARE – S88



Discover a thrilling runway to your dreams with our Diploma in Aeronautical Engineering (DARE). Since its launch in 2002, SP has remained a trailblazer in aeronautical engineering education, making DARE one of Singapore's most comprehensive and versatile aerospace course.

Accreditation by the skills framework for the Air Transport and Aerospace Sector, ensuring that you'll graduate with the most up-to-date skills. You'll receive hands-on training by ST Engineering Aerospace, our official training partner, with a focus on aircraft-related modules. Through a design thinking approach, you will foster problem-solving and creativity through hands-on learning. For those who aspire to be an aircraft pilot or a CAAS-certified drone pilot, there are opportunities to take extra courses to pursue your passion.

Picture yourself in our awe-inspiring Aerohub, the training playground for aspiring aviation professionals. Step into this state-of-the-art facility that spans a jaw-dropping 4,660 square metres and discover four aircrafts, along with two full-motion simulators. Brace yourself for a hyper-realistic experience that is as close as it gets to a real-world industry setting.

To truly excel in your field, you'll need industry connections and real-world experience. That's why we've partnered with aerospace organisations such as:

- Singapore Technologies Engineering Aerospace
- The Republic of Singapore Air Force
- SIA Engineering Company
- Pratt & Whitney
- JAMCO Aero Design & Engineering Pte Ltd

If you're ready to mount new heights, DARE is your gateway to an eye-opening adventure in the aerospace industry.

## Take Your Passion to New Heights Where Sky is Not the Limits

### WHAT YOU CAN EXPECT

- Pursue a Private Pilot License (PPL) at the Singapore Youth Flying Club (SYFC).
- Participate in local and overseas competitions such as the Singapore Amazing Flying Machine Competition (SAFMC) and World Skills Competition (WSC).
- Explore different cultures during the overseas exchange programme.
- Enjoy advanced standing in local and international universities.
- The DARE curriculum prepares you for the CAAS Airworthiness Requirements (SAR 66) exams.
- Look forward to attractive career opportunities in the aerospace industry.
- Complement your domain modules with emerging digital skills.

### FURTHER STUDIES

You can gain an advanced standing of up to two years in mechanical engineering degree courses at local and international universities, such as:

- Nanyang Technological University (NTU)
- National University of Singapore (NUS)
- Singapore University of Technology & Design (SUTD)
- Singapore Institute of Technology (SIT) (University of Glasgow and Newcastle University)
- Singapore University of Social Sciences (SUSS)
- Imperial College London
- Embry-Riddle Aeronautical University, USA
- University of New South Wales (UNSW)
- University of South Australia

### CAREER OPTIONS

- Aeronautical Engineering Technologist
- Assistant Aeronautical Design and System Engineer
- Assistant Aerospace Sales and Marketing Engineer
- Assistant Aerospace Systems Quality Assurance Engineer
- Assistant Engineering Service Engineer
- Assistant Mechanical Engineer
- Assistant Simulator Systems Engineer
- Assistant Technical Service Engineer
- Assistant Unmanned Vehicle System Design Engineer
- Flight Operations Officer
- Licensed Aircraft Maintenance Engineer
- Aircraft Maintenance Planning Executive

### ENTRY REQUIREMENTS

Range of Net 2023 JAE ELR2B2: 4 – 16

Aggregate Type: ELR2B2-C

SUBJECT	GRADE
English Language	1 – 7
Mathematics (Elementary/Additional)	1 – 6
Any one of the following subjects:	1 – 6
<ul style="list-style-type: none"> <li>• Biology</li> <li>• Biotechnology</li> <li>• Chemistry</li> <li>• Computing/Computer Studies</li> <li>• Design &amp; Technology</li> <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>	

Applicants should not be suffering from severe vision deficiency (including colour vision), acute hearing impairment or uncontrolled epilepsy. Interested applicants with any of these conditions are advised to contact Singapore Polytechnic for more information.

### DARE ELECTIVE TRACKS

**Furthering**  
Aero Design and Manufacturing

**Broadening**  
Aviation Management

**Deepening**  
Aircraft Maintenance and Composite Repair



I serve as a Solutions Delivery Specialist at Satair, which is a fully owned subsidiary of Airbus. My primary responsibility involves ensuring the availability of materials and providing vital support to our customers during their maintenance operations. In addition to the classroom curriculum, SP maintains an ongoing and strong partnership with various industries to establish a holistic learning environment for students. My internship experience at Airbus Helicopters was the spark that ignited my passion for continuing my career in this industry.

**Theresse Vanessa Pereira**  
Currently working at Satair Pte Ltd



# WHAT YOU'LL STUDY

The Diploma in Aeronautical Engineering is a three-year full-time programme.



## FIRST YEAR

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|--|---|--|
| <ul style="list-style-type: none"><li>• Basic Mathematics</li><li>• Common Core Modules</li><li>• Computer Programming</li><li>• Computer Aided Drafting</li></ul> | <ul style="list-style-type: none"><li>• Digital Electronics 1</li><li>• Engineering Materials 1</li><li>• Engineering Mathematics 1</li><li>• Introduction to Engineering</li></ul> | <ul style="list-style-type: none"><li>• Mechanics 1</li><li>• Principles of Electrical &amp; Electronic Engineering 1</li><li>• Thermofluids 1</li></ul> |
|--|---|--|

## SECOND YEAR

- |   |  |  |
|---|--|--|
| <ul style="list-style-type: none"><li>• Air Legislation</li><li>• Aircraft Electrical &amp; Instrument Systems</li><li>• Aircraft Maintenance Practices</li><li>• Aircraft Structures</li><li>• Common Core Modules</li></ul> | <ul style="list-style-type: none"><li>• Computer-Aided Design (Aeronautical)</li><li>• Elective 1</li><li>• Elective 2</li><li>• Engineering Materials 2</li><li>• Engineering Mathematics 2</li></ul> | <ul style="list-style-type: none"><li>• Fundamentals of Flight</li><li>• Mechanics 2</li><li>• Statistics and Analytics for Engineers</li><li>• Thermofluids 2</li></ul> |
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## THIRD YEAR

- |   |   |   |
|---|---|---|
| <ul style="list-style-type: none"><li>• Aircraft Communication &amp; Navigation Systems</li><li>• Aircraft Power Plants</li></ul> | <ul style="list-style-type: none"><li>• Aircraft Systems</li><li>• Elective 3</li><li>• Human Factors</li></ul> | <ul style="list-style-type: none"><li>• Mechanics 3</li><li>• Internship Programme/ Internship Equivalent-FYP</li></ul> |
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## ELECTIVES

The SP elective framework offers students options to pursue their passion and / or meet different career needs, and is an integral part of the holistic education we seek to provide to our students. The learning experiences of this elective framework help students in their development as self-directed, versatile, life-long learners, which are essential in today's volatile and changing societal as well as occupational landscape.

Students who are interested to explore additional new skills and abilities will have the opportunity to take up to five electives. Certificates and minors will be awarded when students complete a suite of related elective modules. Please visit <https://www.sp.edu.sg/sp/education/elective-modules> for details of this elective scheme and the full list of electives.

## COMMON CORE CURRICULUM

The Common Core Curriculum is designed to prepare students for a disruptive world that is ever-changing. Comprising critical human and emerging digital skills, the common core modules offer students an integral and inter-disciplinary learning experience to address the wicked problems of the world (framed by the United Nations' Sustainable Development Goals).

Through the Common Core modules, students will think critically about real-world problems, empathise with local and global communities and be challenged to effect change. For more information on the Common Core Curriculum, please visit <https://www.sp.edu.sg/sp/education/common-core-curriculum>.

*All full-time diploma students are required to take a compulsory Education and Career Guidance module in SP. Students will take Education and Career Guidance – Personal Development (30 hours) in their first year.*

*All students are required to take one compulsory Wellness for Life (WFL) module for one semester in their first year in SP. In their second and third year, students may sign up for WFL module as an optional module.*

