AEROSPACE ELECTRONICS
DASE – S90

Designing the Marvels of Aerospace

Come aboard the world of aerospace with the Diploma in Aerospace Electronics (DASE) and discover the cutting-edge technology powering modern planes such as the Airbus A350, Boeing 787 and fighter jets.

At DASE, you'll gain skills such as flight management, instrumentation, navigation and more, placing you at the forefront of advancements in the aerospace industry. With a comprehensive curriculum approved by the Civil Aviation Authority of Singapore (CAAS), you'll gain future-ready skills to align with industry advancements.

Dive into the exciting world of **Aerospace Engineering (Avionics)** and **ICT in Emerging Technologies** through hands-on experiences and industry partnerships. Internship opportunities await at prestigious companies such as:

- Airbus
- Rolls-Royce
- SIA Engineering Company

Pursue your aviation dreams here! Obtain a **Private Pilot License (PPL)** at the Singapore Youth Flying Club (SYFC) and dive into the complexities of Commercial Pilot Theory to gain a competitive edge. If you're captivated by drones, add a CAAS **Unmanned Aircraft Pilot License (UAPL)** to your repertoire.

Our 4,660-square-metre Aerohub is a training playground for aviation enthusiasts. This state-of-the-art facility boasts four aircrafts **and two full-motion simulators,** providing a hyper-realistic experience that is as close as it gets to the real deal.

As the official training partner for ST Engineering Aerospace, we equip you with the most in-demand skills in the aerospace industry, providing you with a multitude of exciting career prospects.

WHAT YOU CAN EXPECT

- Gain expertise in specialised areas with a Certificate in Aviation Management or choose from electives focused on **commercial pilot theory, unmanned aerial vehicle (UAV) flying**, and drone technologies to enhance your career prospects.

- Gain valuable industry experience through the 22-week overseas or local internship at reputable aerospace companies such as Airbus, Rolls-Royce, SIAEC, ST Engineering Aerospace, Thales, CAAS and Changi Airport Group.

- Join the **SP-NUS** Accelerated Pathway Programme and **SP-SUTD** Accelerated Pathway Programme to get a head start in university life.

SCHOLARSHIPS

- A*STAR Science Award
- DSO Diploma Scholarship
- DSTA Polytechnic Engineering Scholarship
- DSTA Polytechnic Digital Scholarship
- Home Team Diploma Sponsorship
- SAF Polytechnic Sponsorship (RSAF)
- SP Engineering Scholarship

FURTHER STUDIES

You can **gain an advanced standing of up to two years** of exemption in Aerospace Engineering, Electrical & Electronic Engineering or Computer Engineering degree courses in local and overseas universities such as NUS, NTU, SUTD, SIT, SUSS, Embry-Riddle Aeronautical University (USA), Imperial College (UK) and University of New South Wales (Australia).

ENTRY REQUIREMENTS
Range of Net 2023 JAE ELR2B2: 5 – 14
Aggregate Type: ELR2B2-C

SUBJECT	GRADE
English Language	1 – 7
Mathematics (Elementary/Additional)	1 – 6
Any one of the following subjects:	1 – 6

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

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.

CAREER OPTIONS

- Air Force Engineer (Maintenance)
- Assistant Electrical Engineer
- Assistant Electronics Engineer
- Assistant Engineering Service Engineer
- Assistant Aerospace Sales and Marketing Engineer
- Assistant Technical Service Engineer
- Flight Operations Officer
- Licensed Aircraft Maintenance Engineer

At DSTA, my primary responsibility involves enhancing the training experience for Air Force Engineers through the design and development of a Mixed Reality Application using the Microsoft HoloLens 2. Having acquired C++ programming skills during my first year at SP, I found it immensely valuable in streamlining the development process for the Mixed Reality Application.

Hansen Wee

DSTA Polytechnic Engineering Scholar

Internship at Defence Science and Technology Agency (DSTA)

Diploma in Aerospace Electronics

Aligned to CAAS Singapore Airworthiness Requirements
Part 66 & Aerospace Skills Framework
Aerospace Engineering (Avionics) + ICT in Emerging Technologies (Aerospace)

Aerospace Electronics (Avionics)
- Aircraft Communication & Navigation
- Aircraft Electrical System
- Aircraft Maintenance Practices
- Aircraft Instrument Systems
- Aircraft Servo & Electronics
- Human Factors & Quality Systems

ICT in Emerging Technologies (Aerospace)
- Artificial Intelligence
- Automation
- Cybersecurity
- Data Analytics
- Internet of Things
- Robotics

WHAT YOU'LL STUDY

The Diploma in Aerospace Electronics is a three-year full-time programme.

FIRST YEAR

- Basic Mathematics
- Common Core Modules
- Computer-Aided Design & Drafting
- Digital Electronics 1
- Digital Electronics 2
- Engineering Mathematics I
- Introduction to Engineering & Design
- Introduction to Engineering Programming
- Network Fundamentals
- Principles of Electrical and Electronic Engineering I
- Principles of Electrical & Electronic Engineering II

SECOND YEAR

- Aircraft Electrical Systems
- Aircraft Maintenance Practices
- Aircraft Servomechanisms and Electronics
- Circuit Theory and Analysis
- Common Core Modules
- Elective 1
- Elective 2
- Engineering Mathematics II
- Human Factors & Quality Systems
- Internet of Things & Cybersecurity for Aerospace
- Robotics & Automation in Aerospace
- Statistics & Analytics for Engineers

THIRD YEAR

- Aircraft Communication & Navigation Systems
- Aircraft Instrument Systems
- Artificial Intelligence & Data Analytics in Aerospace
- Aeronautical Engineering Science
- Elective 3
- Elective 4 (Option)
- Elective 5 (Option)
- 22-Week Internship Programme/ Internship Equivalent

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.