Aviation Management

OVERVIEW

Do you have what it takes to manage a world class airport? How do you run the best airline in the world? Belt up, because this course will prepare you for an exciting career in the aviation industry.

Globally, passenger air travel is expected to see positive growth rates up to 2030, and here, at home, Singapore's aviation sector is said to be some 15 to 20 years ahead of the regional competition. It is also no secret that Changi Airport is one of the best airports in the world.

Here's a bonus - this course can put you on track to earning a Private Pilot's Licence (PPL) too.

Your Journey

Year 1

You will receive a firm foundation in basic aviation knowledge through lab work, study trips and participation in industry visits, which will prepare you for the next level where you will acquire more focused knowledge of the aviation industry.

Year 2

Get ready to receive and apply a higher level of theoretical concepts and skills in both the technical and business management of the aviation industry. You will have learning opportunities and related industry events, which will reinforce your aviation knowledge.

Year 3

You will acquire in-depth knowledge and skills in the specialised area of airport/airline or aeronautical science. This is complemented by the self-driven Major Project (knowledge synthesis), service learning (leadership) and internship attachment (as a prelude to working life).

ENTRY REQUIREMENTS

Minimum Entry Requirements

To be eligible for consideration for admission, applicants must obtain 26 points or better for the net ELR2B2 aggregate score (i.e. English Language, 2 relevant subjects and best 2 other subjects, including CCA Bonus Points) and meet the minimum entry requirements of this course. CCA cannot be used to meet the minimum entry requirements.

English Language (EL1)*	Grades 1-7
Mathematics (E or A)	Grades 1-6
Any one of the listed subjects^	Grades 1-6
Any two other subjects, excluding CCA	

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

* SPM / UEC holders must have a minimum of grade 6 for the Bahasa Inggeris (English Language) subject.

^ List of acceptable subjects: Biology, Biotechnology, Chemistry, Combined Science, Computing/Computer Studies, Design & Technology, Electronics/Fundamentals of Electronics, Physics/Engineering Science, Science (Chemistry, Biology), Science (Physics, Biology), Science (Physics, Chemistry)/Physical Science.

See also the minimum entry requirements for:

- International Students

Aviation Management

COURSE STRUCTURE

TP Fundamentals Subjects

Subject code	Subject	Level	Credit Units
ECS1005	Communication & Information Literacy In this subject, you will learn how to conduct research for relevant information and validate information sources. You will also learn to recognise and avoid plagiarism, and follow standard citation and referencing guidelines when presenting information. In the course of learning, you will be required to plan, prepare and present information appropriately in written and oral form. You will also be taught to consider the Message, Audience, Purpose and Strategy (MAPS) when writing and delivering oral presentations.	1	2
ECS1006	Workplace Communication In this subject, you will be taught how to conduct effective meetings while applying team communication strategies and the skills for documenting meeting notes. You will be required to write clear emails, using the appropriate format, language, tone and style for an audience. You will also be taught to communicate appropriately in and for an organisation when using various platforms. In all aspects, the principles of applying Message, Audience, Purpose and Strategy (MAPS) will be covered.	1	2
ECS1007	Persuasive Communication In this subject, you will be taught how to use persuasive language in written documents. You will be required to use information to your advantage to verbally communicate and convince an audience about your idea, product or service. Skills such as persuasive vocabulary, language features, graphical illustrations, tone and style would also be covered. The Message, Audience, Purpose and Strategy (MAPS) will also be applied when engaging in verbal and written communication.	1	2
GCC1001	Current Issues & Critical Thinking This subject presents you with a panoramic view of current local and global issues, which may have long term implications for Singapore. You will learn to apply critical thinking tools to examine current issues, support your views with relevant research and up-to-date data, articulate an informed opinion and mature as civic-minded individuals.	1	2

EIN1001	Innovation & Entrepreneurship The Innovation & Entrepreneurship subject is designed for learners from all disciplines to embrace innovation in either their specialised fields or beyond. You will first learn the Design Thinking framework, where you will develop problem statements and ideate solutions. Next, you will discover the tools for prototyping and innovation, such as 3D printing and laser cutting, at TP's Makerspace+ facility. Finally, you will acquire commercial awareness through the LEAN Startup framework of idea crystallisation, prototype building, customer testing and validation, refinement of business model canvas, and crowdfunding or crowdsourcing avenues.	1	2
LEA1011	Leadership: Essential Attributes & Practice 1 LEAP 1, 2 and 3 are three fundamental subjects that seek to cultivate in you, the attitude, skills and knowledge for the development of your leadership competencies. This character-based leadership programme enables you to develop your life-skills through establishing personal core values, which will become the foundation for your leadership credibility and influence.	1	1
LEA1012	Leadership: Essential Attributes & Practice 2 LEAP 1, 2 and 3 are three fundamental subjects that seek to cultivate in you, the attitude, skills and knowledge for the development of your leadership competencies. This character-based leadership programme enables you to develop your life-skills through establishing personal core values, which will become the foundation for your leadership credibility and influence.	1	1
LEA1013	Leadership: Essential Attributes & Practice 3 LEAP 1, 2 and 3 are three fundamental subjects that seek to cultivate in you, the attitude, skills and knowledge for the development of your leadership competencies. This character-based leadership programme enables you to develop your life-skills through establishing personal core values, which will become the foundation for your leadership credibility and influence.	1	1
LSW1002	Sports & Wellness This subject will help you develop both the physical and technical skills in your chosen sports or fitness activities. Through a structured curriculum that facilitates group participation, practice sessions and mini competitions, you will learn to build lifelong skills such as resilience, leadership, communication and teamwork. Physical activity sessions will be supplemented by health-related topics to provide you with a holistic approach to healthy living.	1	2
MCR1001	Career Readiness 1 This Career Readiness programme comprises three core subjects – Personal Management, Career Preparation and Career Management. It seeks to help you understand your career interests, values, personality and skills for career success. It also equips you with the necessary skills for seeking and securing jobs, and to develop professional work ethics.	1	1

MCR1002	Career Readiness 2 This Career Readiness programme comprises three core subjects – Personal Management, Career Preparation and Career Management. It seeks to help you understand your career interests, values, personality and skills for career success. It also equips you with the necessary skills for seeking and securing jobs, and to develop professional work ethics.	1	1
MCR1003	Career Readiness 3 This Career Readiness programme comprises three core subjects – Personal Management, Career Preparation and Career Management. It seeks to help you understand your career interests, values, personality and skills for career success. It also equips you with the necessary skills for seeking and securing jobs, and to develop professional work ethics.	1	1
EGS1002	Global Studies This subject provides essential skills and knowledge to prepare you for an overseas experience. You will examine the elements of culture and learn the key principles of cross-cultural communication. In addition, you will gain an appreciation and awareness of the political, economic, technological and social landscape to function effectively in a global environment.	1	3
EGS1003	Managing Diversity at Work* This subject explores the concepts of identity, diversity and inclusion at the workplace. It examines the relationship between identity and diversity, the benefits and challenges of diversity and the strategies that promote inclusion and inspire collaboration in a diverse workplace. Examples of the elements of diversity covered in this subject include nationality, generation, ethnicity and gender.	1	3
EGS1004	Global Citizenship & Community Development* Students will examine the meaning and responsibilities of being a Global Citizen, in order to contribute towards a more equitable and sustainable world.? In addition, students will learn how sustainable solutions can support community development, and, execute and critique a community action plan that addresses the needs of a specific community/cause.	1	3
EGS1005	Expressions of Culture* This subject provides a platform for an understanding of culture and heritage through modes of expression. Students will be introduced to global and local cultures via everyday objects, places and human behaviour seen through time and space. Students will explore issues and challenges in culture and heritage sustainability in community, national and global contexts.	1	3
TGL1001	Guided Learning The subject introduces students to the concepts and process of self-directed learning in a chosen area of inquiry. The process focusses on four stages: planning, performing, monitoring and reflecting. Students get to plan their individual learning project, refine and execute the learning plan, as well as monitor and reflect on their learning progress and project. The learning will be captured and showcased through a curated portfolio. The self-directed learning project will broaden and/or deepen a student’s knowledge and skills.	1	3

ESI3001	Student Internship Programme The on-the-job training nature of the programme allows you to gain some industrial experience. Through this programme, you will be exposed to the work environment so that you can better appreciate and understand the problems and issues at the work place. The content and scope of learning varies from organisation to organisation. However, it is envisaged that after the programme, you would have, in general, developed your communication and interpersonal skills as well as the right work ethics, and also become more mature, confident and independent, and have a more realistic expectation of what a working environment is like.	3	12

** Students must choose to take either one of these three subjects or TGL1001 Guided Learning.*

Core Subjects

Subject code	Subject	Level	Credit Units
EAD1001	Introduction to Civil Aviation This module provides an overview of the aviation industry and introduces the key concepts and interaction of components in the aviation system including airports, aircrafts and airway systems. It also touches on the history and the role of key players in the aviation industry.	1	4
EAL1003	Airline Operations The subject covers the fundamentals of airline operations. Topics covered include ground operations such as handling of passengers, baggage, cargo, as well as ramp handling services, airside management, aircraft engineering and maintenance. Other topics include airline flight operations such as flight control centre, flight crew and cabin crew scheduling, flight procedures and requirements, corporate aviation, airline operational efficiency and punctuality.	1	4
EAL1004	Principles of Aeronautical Science This subject provides you with a basic understanding of the fundamentals of flight operations. Topics covered include the component parts of an airplane, atmosphere, theory of flight, flight controls and stability of an aircraft, as well as airplane instruments.	1	4
EAM1001	Airport Operations & Management This subject introduces the fundamental concepts and principles involved in the management and operation of modern international airports. You will learn about the principles of airport management and the various aspects of airport operations, including, airport terminal layout and planning, terminal signage systems, gate and baggage belt assignments, terminal contingency planning, airport emergency systems, airport support services and equipment, estate management and terminal landscaping.	1	4
EBZ1004	Business Fundamentals This subject provides you with an overall view pertaining to the four pillars of business: Management, Marketing, Money and Manpower. Introductory topics correlating to the four pillars of operation - Management Fundamentals, Marketing Principles, Financial Statements and Organisation Behaviour, will be taught.	1	4

EMA1002	Engineering Mathematics 2 This subject introduces the basic concepts of calculus and statistical method to test a hypothesis. Basic concepts in calculus include limits, derivatives and integrals. Applications of the derivative and integrals in engineering will be discussed. Basic statistical method in hypothesis testing includes normal distribution, confidence interval of population mean and procedure to test hypothesis for a claim made about a population mean.	1	4
EMA1003	Engineering Mathematics 1 This subject introduces the concepts in algebra and trigonometry that are fundamental to an engineering course. Topics include expressions and equations, functions and graphs, trigonometry, complex numbers, matrices and vectors. These also constitute pre-requisite knowledge for a course in Calculus.	1	4
ESE1006	Computer Programming for Problem Solving This subject covers the process of decomposing a problem into a sequence of smaller abstractions. The abstractions are implemented in software in a structured top-down approach. Software implementation includes the process of designing, writing, testing, and debugging program code.	1	4
ESE1008	Data Visualisation & Analytics This subject covers the data analytics lifecycle, including gathering, cleaning, processing and visualising of data. Exploratory data analysis methods, descriptive and predictive analytics, and the presentation of insights, will also be covered.	1	3
ESZ1002	Quantitative Methods This subject introduces basic statistical concepts. Topics include descriptive statistics, probability distributions, estimation of population parameter, hypothesis testing, and simple linear regression.	1	4
EAL2005	Airline Management This subject covers the fundamentals of airline business and management. The contents include airline business models, key airline performance indicators, airline marketing, airline route and network development and airline administration. Other topics covered include management of airline profitability using AIRLINE Online simulation and SWOT analysis.	2	4
EAM2007	Aviation Safety & Security This subject introduces the global civil aviation security and safety threats, management concepts, frameworks and challenges. Topics covered include global threats to airlines, airports, passengers and their dire impact to aviation operations. ICAO security and safety concepts, frameworks and requirements, bridging into the various national security programmes and safety management systems that safeguard all stakeholders. Other topics include the challenges of balancing between security and facilitation, and between safety and operational efficiency.	2	4

EAT2006	Airport Systems This subject provides an overview of the key facilities and systems in both the landside and airside of an airport. Topics covered in landside will include passenger check-in systems, the Flight Information Display Systems (FIDS) and the various airport IT support systems. Other topics include the operation of the fully automated baggage handling system, the People Mover System (PMS) and the Passenger Loading Bridges system. On the airside, topics covered include the causes of wear and tear of aircraft pavements, methods of assessing the condition of aircraft pavements, the programming of maintenance works and techniques of repairs and their compliance to international operational standards and requirements.	2	4
EAT2007	Airfield Systems The subject provides a basic understanding of the airfield systems used in the aviation industry, mainly by Air Traffic Service and other supporting units. Topics covered include aeronautical telecommunications, functions of air and ground radar systems, multi-surveillance tracking systems, aerodrome approach aid and requirement of the various categories, aerodrome ground aid, automatic dependent surveillance and controller-pilot data link communication.	2	4
EBM2004	Project Management This subject aims to provide an overview of the principles and concepts in project management and equip you with the theoretical foundation and skills in using project management tools. It emphasises the knowledge and practices which are widely applied in project management. Topics covered include the project management framework, project management processes and project management knowledge areas.	2	4
EBZ2006	Service Quality & Management This subject introduces the key concepts and principles of Service Quality and Management. Topics covered include concepts of quality services, essential skills in customer services, principles and strategy of service management, methods for service quality measurements and service recovery.	2	4
EBM3004	Business Continuity Management This subject introduces the concepts and trends in the design, development, implementation and management of business continuity. Beginning with an introduction of business continuity management (BCM), it delves into business impact analysis, risk evaluation, BCM strategies and emergency response and operations. The development of business continuity and crisis management plans and the coordination with external agencies are also discussed.	3	4
EMP3002	Major Project The Major Project gives you an opportunity to integrate and apply your knowledge in a practical learning situation. Besides research, design and project management skills, the emphasis will also be on innovation, creativity, teamwork and enterprise.	3	8

Diploma Options

- Airport & Airline Option

Subject code	Subject	Level	Credit Units
EAL3004	Management of Air Cargo The subject provides an understanding of the fundamentals of the aviation logistics and cargo management. Topics covered include the importance of air cargo to the economy, cargo rates and tariffs issues, terminal facilities and work flow for cargo operations, as well as forecasts and future trends of the cargo industry.	3	4
EAM3002	Airport Administration This subject covers the fundamental concepts and principles involved in the organisational, and administration of modern international airports. Topics include airport performance, productivity and feedback systems, and airport-related commercial management, public relations, corporate/business planning, organisational structures, financial and accounting strategies, as well as revenue and expense sources.	3	4
EAT3001	Air Traffic Management The subject provides an overview of how Air Traffic Service functions as an operational unit. It also gives you a basic understanding of the theoretical and practical skills required in Air Traffic Management. Topics covered include the fundamentals of air traffic management, aerodrome control, approach radar and non-radar control, area radar and non-radar control, emergency procedures and future developments in air traffic management.	3	4

- Aeronautical Science Option

Subject code	Subject	Level	Credit Units
EAL3005	Air Navigation This subject will provide you with a basic understanding of navigation in general. It involves the study of the shape and dimension of the earth. Topics covered include chart projections, air speed, time datum, altimetry, and conversion of distances, speed, weight and wind velocity. An overview of the navigation computer will also be covered.	3	4
EAL3006	Flight Planning This subject introduces you to the concept of flight planning and monitoring that are required in flight operations. Topics covered include operational procedures, communication, navigation aids and charts, aviation publications, weather information, basic aircraft performance and fuel planning, and how these are consolidated in the generation of flight plans.	3	4
EAM3003	Meteorological Studies This subject will provide you with a basic understanding of the atmosphere and weather. You will learn about the changes in temperature, air pressure, moisture and wind directions that determine the weather pattern. Topics covered include the behaviour of the atmosphere of the earth, various aviation weather phenomena and the impact of adverse weather conditions on airline and airport operations.	3	4

Graduation Requirements

Cumulative Grade Point Average	min 1.0
TP Fundamentals Subjects	36 credit units
Diploma Core Subjects	75 credit units
Total Credit Units Completed	**min 123 credit units**