

Credit Requirement

66 academic credits (plus 4 IC training credits)

Entrance Requirement

An Associate Degree or a Higher Diploma in a related engineering discipline.

In addition to academic results, preference will be given to excellent performance during the interview.

Professional Accreditation

The programme has been granted full accreditation by the Hong Kong Institution of Engineers (HKIE).

Career Prospects

Graduates will be able to seek employment as professional engineers in maintenance, repair and operations organizations, and in the areas of air transportation, logistics operation, and aircraft component design and manufacture. They can also find employment opportunities in other engineering related industries such as engineering consultancy firms, environmental, electronic and manufacturing industries, information technology and education sectors, and government departments.

Supporting Industrial Partners:

The Hong Kong Aircraft Engineering Company Limited (HAECO) and The Hong Kong Aero Engine Services Limited (HAESL) have donated a Rolls-Royce DART Engine and Aircraft Components respectively to PolyU to support this programme.

Civil Aviation Department (CAD) of The Hong Kong Special Administrative Region, The Hong Kong Airport Authority, Cathay Pacific other aviation business sectors may provide site-visiting opportunity for students.

HKCAD, the Hong Kong Airport Authority, Cathay Pacific Airways, HAS, CASL, HAECO, HASEL and other local aviation business are committed to provide opportunities to students on final year projects.

Bachelor of Engineering (Honours) in Air Transport Engineering

(2-year Full-time Government-funded Top-up Degree Programme)

民航工程學（榮譽）工學士學位

兩年全日政府資助銜接學位課程



Enquiries

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Programme Information

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Remark: Information presented in this leaflet is subject to changes and does not form part of any contract between the University and any person.



Photo courtesy: HAECO



Bachelor of Engineering (Honours) in Air Transport Engineering

(2-year Full-time Government-funded Top-up Degree Programme)

民航工程學（榮譽）工學士學位 兩年全日制政府資助銜接學位課程

Hong Kong is a premier regional and international hub. It has one of the busiest airports in the world. Being situated at the centre of aviation's fastest growing region in the world, Hong Kong and its local region is facing a serious shortage of infrastructure, qualified aircraft engineers, airport operation, airline and aviation logistic professionals to serve the growing needs in an efficient, sustainable and safe manner.

In view of the pressing professional manpower demand of the aviation industry, since 2014/2015 the Hong Kong Polytechnic University (PolyU), with the support of the local aviation and aircraft maintenance industries, has launched this 2-year top-up degree programme in Air Transport Engineering that aims to educate and develop skilled aviation service and technical professionals.

In this programme, students will receive fundamental knowledge of aircraft engineering principles and aviation operations in their first year study prior to participation in the summer internship programme, which may be offered by industrial partners. In the second year, specific knowledge on airport project management, airworthiness and flight mechanics and control systems are delivered to students to provide them a complete picture on the operation of the aviation industry.

Industrial Centre (IC) training which aims at providing students with basic hands-on engineering skills and practice through workshop and project training is arranged at the beginning of the second semester.

Programme Objectives

This programme aims to provide students and produce highly skilled graduates with:

1. In-depth understanding of the operation of air transportation industry;
2. Fundamental knowledge of the design, manufacturing and maintenance of air vehicles;
3. Competence to handle different engineering problems practically and academically in the aviation industry;
4. Sufficient knowledge and skills to manage different projects related to the aviation sector effectively and efficiently;
5. Confidence in communication with different parties and stakeholders by the use of state-of-the-art technologies and aviation language (both English and Chinese).



Programme Structure

Total 66 credits + 4 training credits

Year One (33 + 4 training Credits)	
Semester 1 (19 / 19 + 2 training credits)	Semester 2 (14 + 2 / 4 training credits)
Fundamentals of Aerodynamics	Aircraft Propulsion Systems
Aircraft Structures and Materials	Air Transport Operations (2 credits)
Dynamical Systems and Control	Avionics Systems
Introduction to Aircraft Design and Aviation Systems	Society and the Engineer
Chinese Communication for Aviation (2 credits)	Aviation Safety and Reliability
Professional Communication in English for Engineering Students (2 credits)	Integrated Aviation Engineering Project (4 training credits) [for students not selecting the HKAR-147 stream]
Cluster Area Requirements I ^	
Aircraft Manufacturing and Maintenance Fundamentals (4 training credits) [for students selecting the HKAR-147 stream]	
Summer Internship (Optional)	
Year Two (33 credits)	
Semester 1 (18 credits)	Semester 2 (15 credits)
Airworthiness & Regulations	Project Management
Elective 1	Flight Mechanics and Control
Elective 2	Elective 3
Cluster Area Requirements II^	Elective 4
Service Learning ^	
Final Year Capstone Project (6 credits)	

Four Streams of Study

Students are required to select four subjects (12 credits) from a pool of electives. The electives are classified into four study streams.

1. Aviation Services Engineering
2. Aeronautical Engineering
3. Air Maintenance Engineering
4. Pilot Ground Theory
5. Introduction to Pilot Ground Theory

Through the choice of electives, students will acquire specialized knowledge in a specific area of aviation engineering.

Streams	Elective Subjects
Aviation Services Engineering	• Aviation Project Management • Airport Services Engineering • Aircraft Leasing and Finance • Aviation Finance, Taxation and Insurance • Systems Modeling and Simulation • Data Management in Aviation Industries • Aircraft Service Engineering and Logistics
Aeronautical Engineering	• Engineering Composites • Compressible Aerodynamics • Flight Control Systems • Electronics & Information Technologies for Unmanned Aerial Systems • Guidance and Navigation • Advanced Positioning and Navigation Systems
Aircraft Maintenance Engineering [priority will be given to students who opt for HKAR-147 training]	• Aircraft Gas Turbine Engine Systems • Aircraft Inspection and Testing • Aircraft Maintenance Practices • Aircraft Propeller
Introduction to Pilot Ground Theory [Students who are interested to attend the Airline Transport Pilot's Licence (ATPL) upon graduation are strongly recommended to attend these four electives]	• Advanced Positioning and Navigation Systems • Pilot Ground Theory • Human Factors in Aviation • Meteorology in Aviation

* Elective streams or subjects are subjected to review and approval.