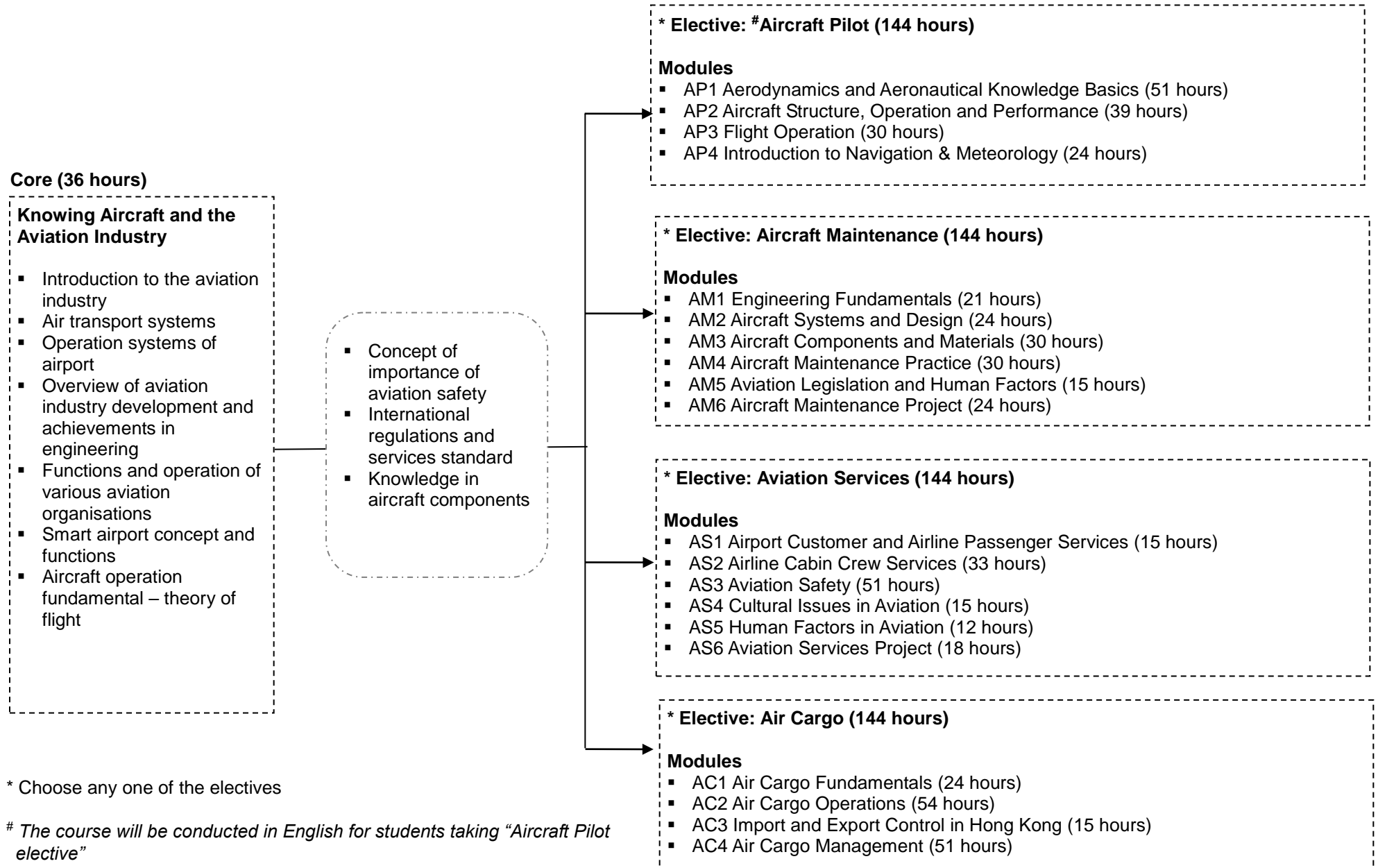


## Applied Learning

### 2022-24 Cohort; 2024 HKDSE

Item	Description
1. Course Title	Aviation Studies
2. Course Provider	School of Professional and Continuing Education, The University of Hong Kong
3. Area of Studies/ Course Cluster	Engineering and Production/Services Engineering
4. Medium of Instruction	Chinese or English
5. Learning Outcomes	<p>Upon completion of the course, students should be able to:</p> <ol style="list-style-type: none"> <li>(1) describe the functions and operation of various aviation organisations including airport authority and airlines;</li> <li>(2) describe international regulations and standard requirements in the aviation industry;</li> <li>(3) apply practical skills in the aviation industry;</li> <li>(4) demonstrate problem-solving skills through tackling aviation-related issues with multi-disciplinary knowledge;</li> <li>(5) appreciate the latest development and achievements in engineering in related fields;</li> <li>(6) appreciate the importance of teamwork and communication in the aviation industry;</li> <li>(7) describe the work ethics and demonstrate positive values and attitudes in the aviation industry; and</li> <li>(8) develop self-understanding for further studies and career development in the related field.</li> </ol>

## 6. Curriculum Map – Organisation and Structure (Aviation Studies – Overview)



6. Curriculum Map – Organisation and Structure (Elective: Aircraft Pilot) # *The course will be conducted in English for students taking “Aircraft Pilot elective”*

**Knowing Aircraft and the Aviation Industry (Common Core Module)**

- Introduction to the aviation industry
- Airport transport systems
- Operation systems of airport
- Overview of aviation industry development and achievements in engineering
- Functions and operation of various aviation organisations
- Smart airport concept and functions
- Aircraft operation fundamental – theory of flight

**AP1 - Aerodynamics and Aeronautical Knowledge Basics**

- Terminology and documents
- Introduction to abnormal flying conditions
- Ground maneuver, takeoff and landing
- Principles of flying and the four forces in flight

**AP2 - Aircraft Structure, Operation and Performance**

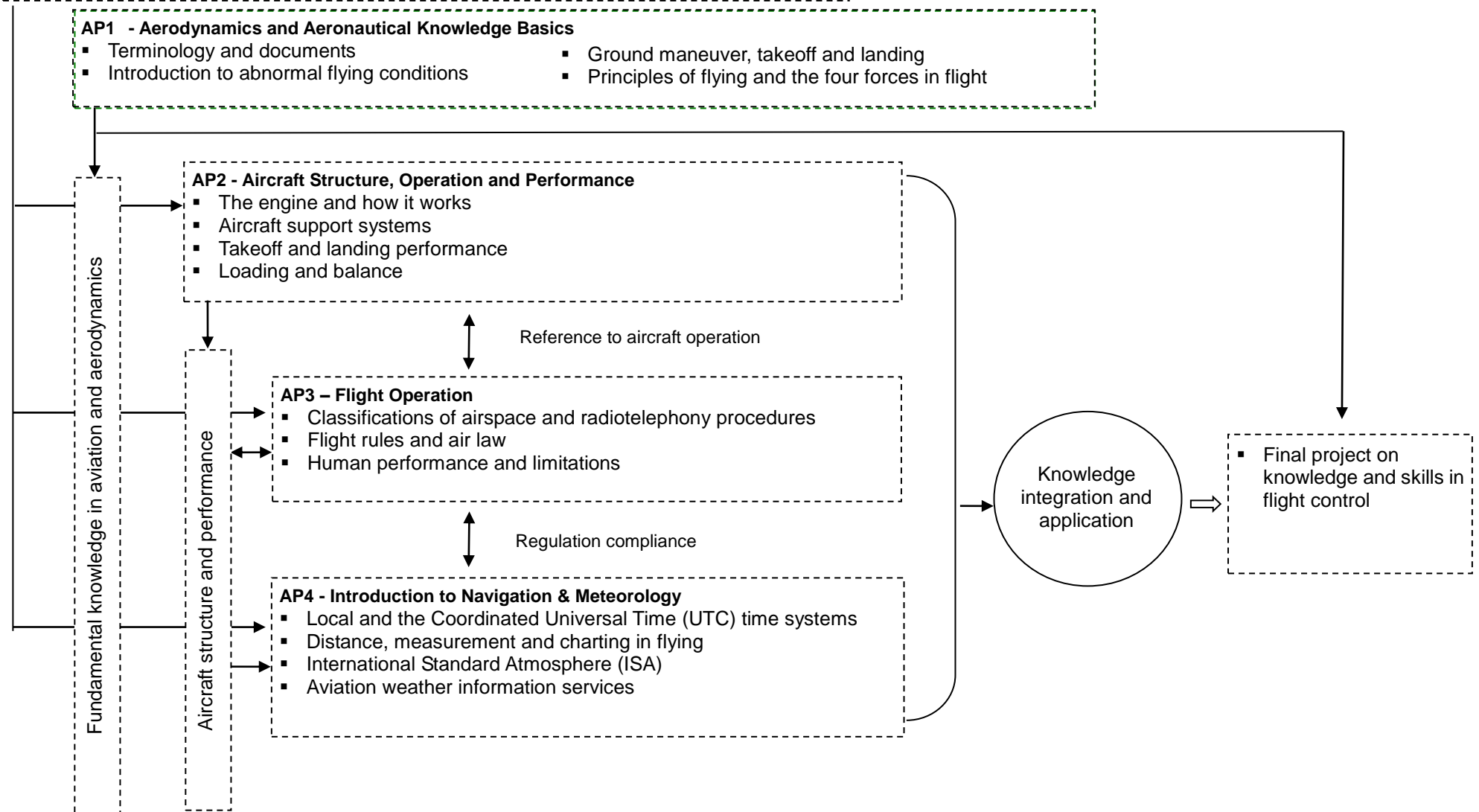
- The engine and how it works
- Aircraft support systems
- Takeoff and landing performance
- Loading and balance

**AP3 – Flight Operation**

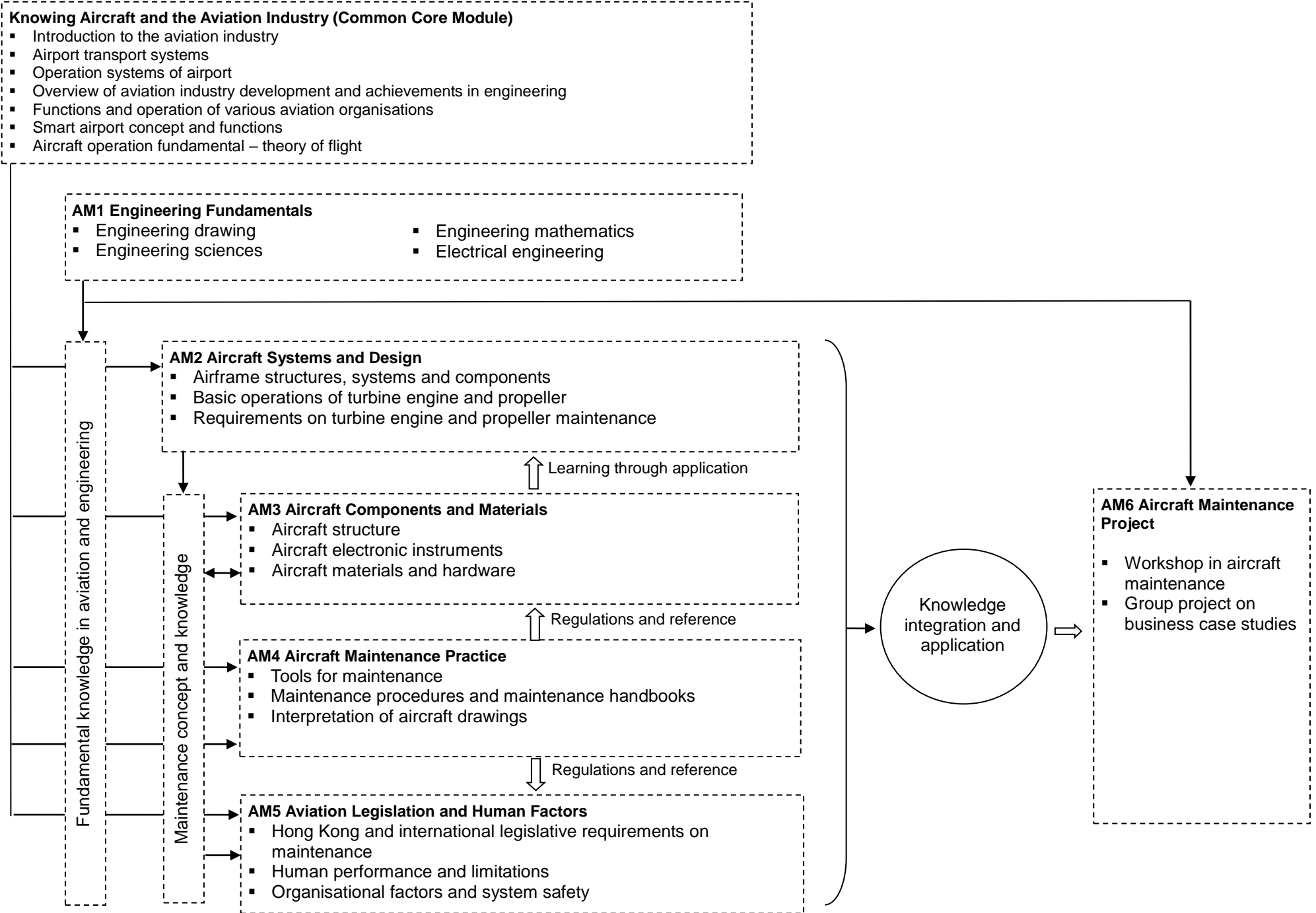
- Classifications of airspace and radiotelephony procedures
- Flight rules and air law
- Human performance and limitations

**AP4 - Introduction to Navigation & Meteorology**

- Local and the Coordinated Universal Time (UTC) time systems
- Distance, measurement and charting in flying
- International Standard Atmosphere (ISA)
- Aviation weather information services



## 6. Curriculum Map – Organisation and Structure (Elective: Aircraft Maintenance)



## 6. Curriculum Map – Organisation and Structure (Elective: Aviation Services)

### Knowing Aircraft and the Aviation Industry (Common Core Module)

- Introduction to the aviation industry
- Airport transport systems
- Operation systems of airport
- Overview of aviation industry development and achievements in engineering
- Functions and operation of various aviation organisations
- Smart airport concept and functions
- Aircraft operation fundamental – theory of flight

### AS1 Airport Customer and Airline Passenger Services

- Airport customer behaviour
- Airport customer service features
- Airline guide and IATA manuals
- Passenger handling procedures

### AS2 Airline Cabin Crew Services

- Personal essentials for cabin crew profession
- Customer interaction and communication
- Crew resources management
- Airline catering

### AS3 Aviation Safety

- Responsibility for security control of people and items
- Procedures for handling restricted and dangerous articles
- Aviation first aid

### AS4 Cultural Issues in Aviation

- Cultural impacts on customer service
- Cultural awareness and coping with cultural differences
- Regional culture

### AS5 Human Factors in Aviation

- Human performance and limitations
- Human factors affecting performance
- Human factors assessment and indicators

Fundamental knowledge in aviation and customer service

Aviation services concept and knowledge

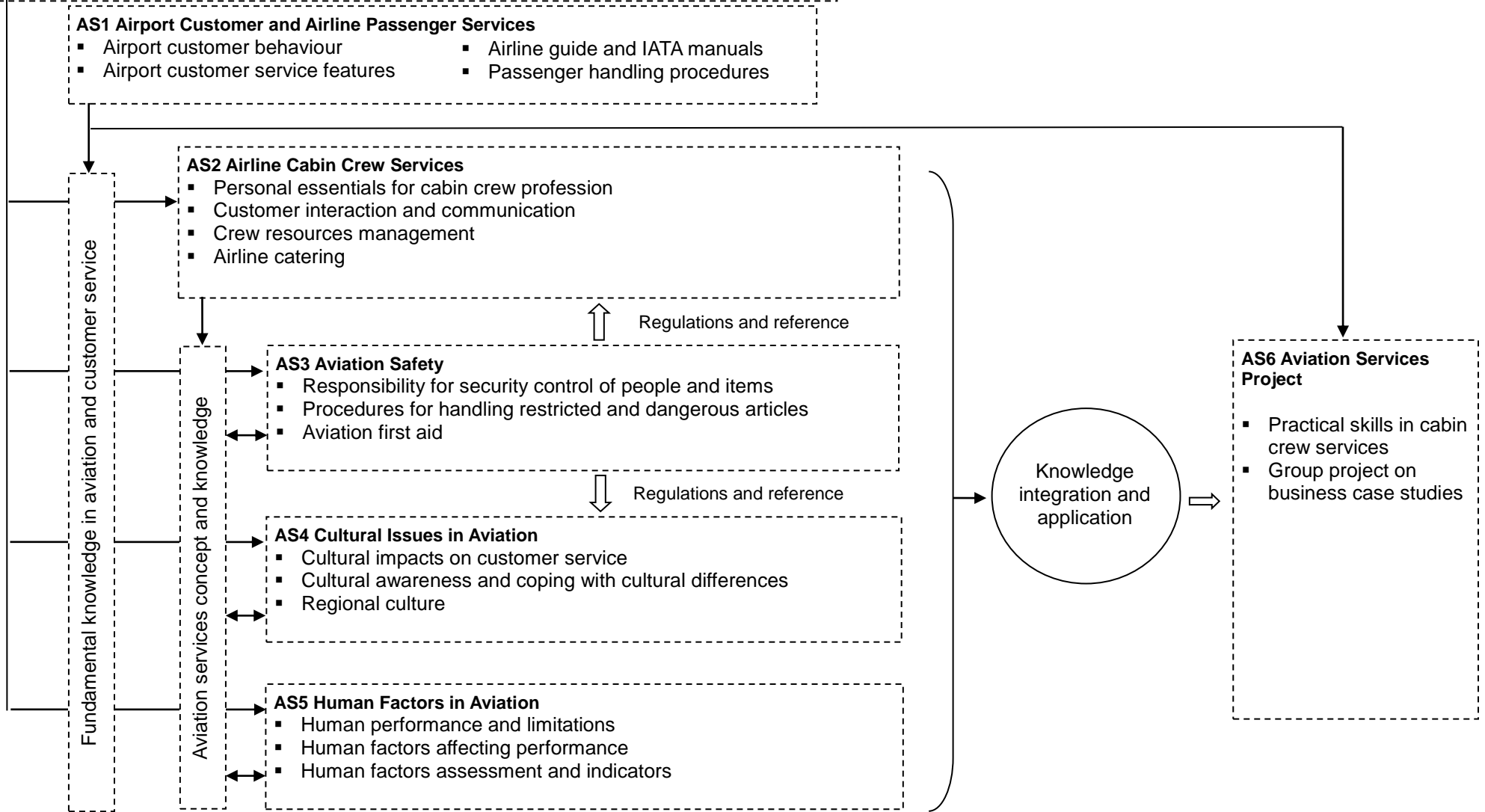
Regulations and reference

Regulations and reference

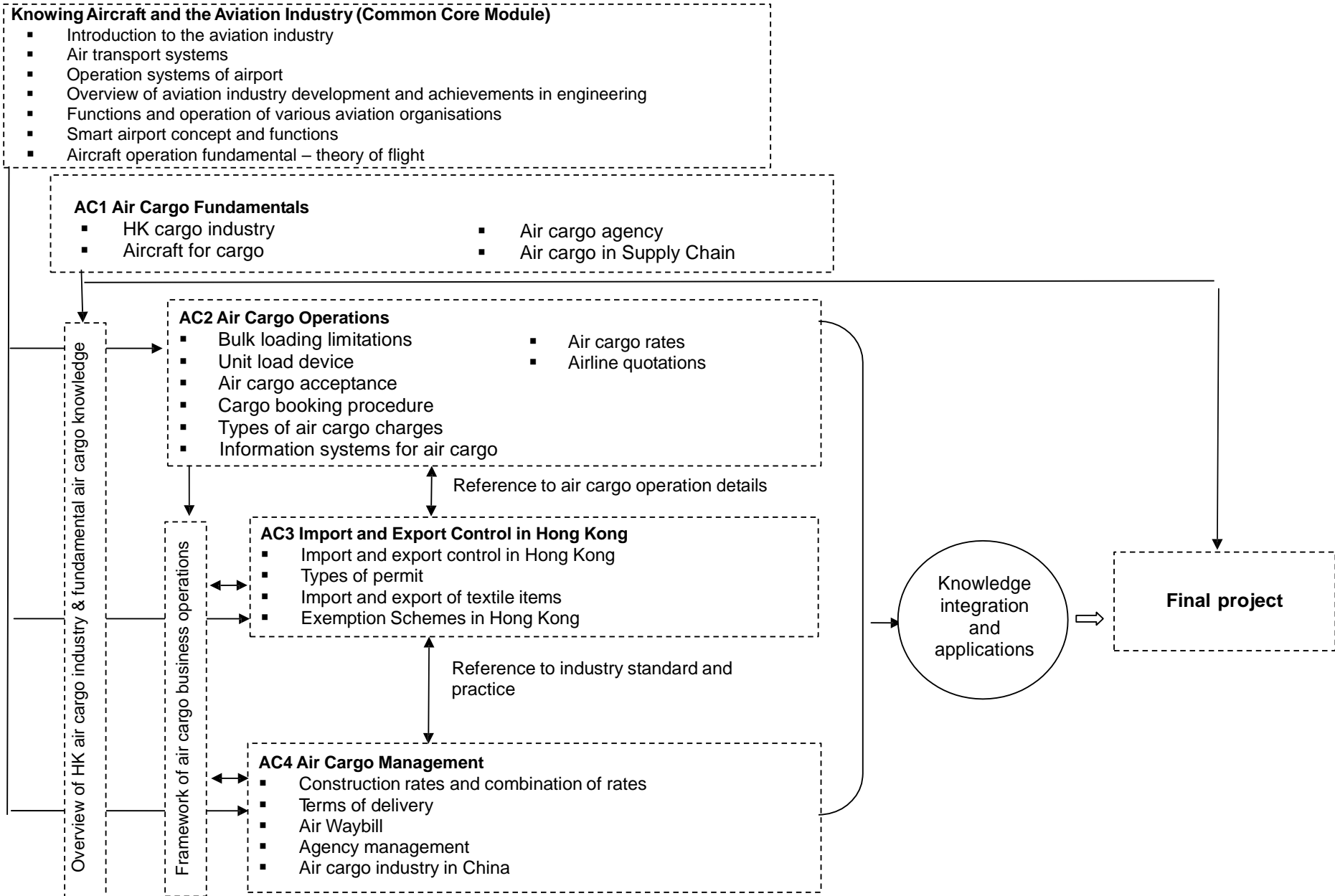
Knowledge integration and application

### AS6 Aviation Services Project

- Practical skills in cabin crew services
- Group project on business case studies



## 6. Curriculum Map – Organisation and Structure (Elective: Air Cargo)



## 7. The Context

- The information on possible study and career pathways is provided to enhance students' understanding of the wider context of the specific Applied Learning course. Students who have successfully completed Applied Learning courses have to meet other entry requirements as specified by the institutions.
- The recognition of Applied Learning courses for admission to further studies and career opportunities is at the discretion of relevant institutions. The Education Bureau and the course providers of Applied Learning are exploring and seeking recognition related to further education and career development opportunities for students successfully completing the Applied Learning courses.

### Possible further study and career pathways

#### Further studies

- e.g. aviation, engineering, tourism, human resources management, logistics, transportation

#### Career development

- e.g. aircraft cadet pilot, aircraft maintenance trainee, engineer in aircraft maintenance/aircraft manufacture, mechanical engineer, cabin crew, customer service officer, air cargo officer, ground handling and ramp service agent

#### Other qualification (for Aircraft Pilot elective and Aircraft Maintenance elective)

- e.g. (Aircraft Maintenance elective) – Civil Aviation Department HKAR-66 Category A Aircraft Maintenance Licence qualification
- e.g. (Aircraft Pilot elective) – Private Pilot Licence. Additional practical flying training is required in order to fully complete the qualification of Private Pilot Licence. The practical flying sessions are not included in this ApL curriculum and it is optional for students to attend the practical flying sessions. The Aircraft Pilot elective will focus on the theory of flight and practical exercises will mainly be computer-based flight simulation. HKU SPACE will provide students the practical flying information which will be conducted in overseas, such as Adelaide or Brisbane in Australia. Extra expenses are required for the practical flying sessions.
- e.g. (Air Cargo elective) – Membership of related professional association such as The Chartered Institute of Logistics and Transport in Hong Kong (CILTHK)
- e.g. (Aviation Services elective) - Airline Cabin Crew Training qualification as recognized by the International Air Transport Association (IATA)



#### Relations with core subjects and other elective subjects

##### Enhancing and enriching, e.g.

- applying mathematical knowledge to solve operational problems in aviation (e.g. cargo loading) and information technology skills in data research and handling to strengthen students' learning in **Mathematics and Information and Communication Technology**

##### Cross-fertilisation, e.g.

- the application of concepts and theories in **Physics, Geography, Tourism and Hospitality** enhances the learning in the related subjects
- students taking **Personal, Social and Humanities Education Key Learning Area** could broaden their knowledge in aviation

##### Expanding horizons, e.g.

- students taking **Science subjects** could broaden their knowledge in cultural issues in aviation
- students taking **Design and Applied Technology** could further enhance their technology knowledge and skills through engineering related practical exercises at industry standard

##### Consolidating and synergising students' studies, e.g.

- practical activities provided in this course help students reflect on their learning to develop knowledge and generic skills, so that they can apply in their studies of other subjects

#### Cluster of professions/trades/industries related to the course

- e.g. aviation, engineering, logistics & services

#### Future global and local outlook

- aviation is considered as a major contributor to global economic growth, financial support is also provided by governments all over the world to sustain the future operation of airports and airlines
- the Hong Kong International Airport (HKIA) is a vital component of Hong Kong's economy, serving both tourism and commerce. It is an important regional trans-shipment centre, passenger hub and a gateway to other Asian and Chinese cities

#### Beginners' skill set to facilitate entry to further studies and/or work

- describe the functions and general operation of various aviation organisations
- appreciate the international and local industry standard requirements
- apply the terminologies commonly used in the aviation industry and apply language communication (mainly English) at the industry standard
- apply basic technical skills based on the selected stream of study
- develop the personal attributes essential to the aviation industry such as effective communication



#### Foundation knowledge developed in junior secondary education and Secondary 4

The course is built upon the foundation knowledge students acquired in, e.g.

- Chinese Language Education and English Language Education** – verbal and written communication
- Mathematics Education** – data handling, measures and calculation
- Technology Education** – use of information technology
- Science Education** – force and motion
- Geography** – map reading
- Personal, Social and Humanities Education** – culture and its impact on customer service

#### Relations with other areas of studies/ courses of Applied Learning

##### Business, Management and Law, e.g.

- legislative requirements in maintenance

##### Services, e.g.

- the concepts, values and attitudes underpinning service provision particularly for the unique operating environment and requirements in aviation service

## **Applied Learning**

### **2022-24 Cohort; 2024 HKDSE**

#### **Learning and Teaching**

**Course Title** : **Aviation Studies**  
**Area of Studies** : **Engineering and Production**  
**Course Provider** : **School of Professional and Continuing Education,  
The University of Hong Kong**

In Aviation Studies, student-centred learning and teaching activities are designed to enable students to understand fundamental theories and concepts, develop their generic skills, and address their career aspirations in the aviation industry.

Different modes of activities are employed to provide students with a systematic understanding about the context (e.g. lectures on the overview of the Hong Kong aviation industry) and eye-opening opportunities to experience the complexity of the context (e.g. visits to local aviation organisations, practical exercises at industry standard and sharing sessions and career talks by the aviation practitioners).

Students acquire an understanding of the requirements, fundamental knowledge and skills essential for further learning within the area through learning-by-practising opportunities in an authentic or near-authentic environment (e.g. workshops under simulated working environment with industry grade tooling at industry standard, and application of technology on teaching and learning such as Virtual Reality and flight simulation).

Students are also encouraged to develop and apply conceptual, practical and reflective skills to demonstrate entrepreneurship and innovation (e.g. case studies to evaluate the impact of the aviation industry on the local economy and analyse the operation of various aviation organisations). Students are given opportunities to integrate the knowledge and skills acquired and consolidate their learning (e.g. in the aviation projects, students investigated the authentic cases in aviation and suggested solutions. Students are expected to make use of the knowledge acquired and present their findings in a systematic way. In the process, students apply practical skills at industry standard, demonstrate problem-solving skills through tackling aviation-related issues with multi-disciplinary knowledge, and prepare reports and group presentation. During the project, students are also expected to demonstrate the positive values and attitudes required in the aviation industry).



## Applied Learning

### 2022-24 Cohort; 2024 HKDSE

#### Curriculum Pillars of Applied Learning in Context – Aviation Studies

Upon completion of the course, students should be able to:

- describe the functions and operation of various aviation organisations including airport authority and airlines;
- describe international regulations and standard requirements in the aviation industry;
- apply practical skills in the aviation industry;
- demonstrate problem-solving skills through tackling aviation-related issues with multi-disciplinary knowledge;
- appreciate the latest development and achievements in engineering in related fields;
- appreciate the importance of teamwork and communication in the aviation industry;
- describe the work ethics and demonstrate positive values and attitudes in the aviation industry; and
- develop self-understanding for further studies and career development in the related field.

Through the specific contexts related to the course, students have different learning opportunities, for example:

#### 1. **Career-related Competencies**

- understand the future development trend of the local and global aviation industry through on-site visits and career talks by industry practitioners;
- explain the functions and operation of various aviation organisations; and
- enhance understanding of industry competency requirements through practical exercises which are set according to the industry standard.

#### 2. **Foundation Skills**

- strengthen language ability through reading relevant information on local and international aviation regulations which is usually written in English;
- strengthen communication skills both in verbal and written forms through working on-site visits and project reports, presentation and role play practice;
- consolidate mathematical concepts and strengthen problem-solving skills by working on aviation related tasks; and
- strengthen information technology skills through doing research and information collection for assignments and projects.

**3. Thinking Skills**

- integrate knowledge from different aspects including Science, Mathematics, Geography and Citizenship and Social Development, as well as knowledge of Human Biology and Psychology covered in topics on aviation human factors;
- develop critical thinking skills and analytical skills through discussions on authentic aviation cases which will stimulate students' thinking and further understanding of the competency required in the aviation industry;
- enhance thinking skills through participation in regular class activities including role play, simulation exercises, presentations and site visits; and
- develop skills in problem-solving and decision-making through project works which require information search and filtering, results analysis and consolidation.

**4. People Skills**

- develop team building skills through participating in the establishment and operation of self-directed working teams;
- enhance concept of division of work through group projects and role play activities in class;
- develop skills in interpersonal communication and interaction through practicing simulated aviation operation procedures at industry standard; and
- develop self-management skills through practice under simulated aviation working environment where students are required to follow industrial regulations and guidelines.

**5. Values and Attitudes**

- develop responsibility through understanding the high safety requirements in the aviation industry;
- develop concept of rights and obligations, and respect for safety of other people through experience sharing by lecturers and guest speakers from the industry; and
- develop self-confidence through successful completion of practical work with feedback by tutors.