



**UNIVERSITY OF KYRENIA**

**FACULTY OF AVIATION AND SPACE  
SCIENCES**

*Course Catalogue*

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Dear Students,

At the present time, technology and science is rapidly developing and it has come to the fore that quality education has to been given to students to aid these developments. In the environment created by the change and expansion of technologies, studies are carried out to provide higher education in the most effective manner. Our Aviation and Space Sciences Faculty which has newly been founded and at which education and training has newly started, endeavours in forming and providing education by using the opportunities present in the best possible way and according to modern requirements. Considering the changes that will occur in the profession with time, we hold the vision that our graduates gain the thinking ability to resolve the problems that can be encountered. It is understood that shaping the curriculum is not enough to create the environment within which students can put forth their creative and innovative ideas (as is with workers in the aviation industry), but to also create the surroundings where these ideas can be exposed.

Our faculty includes the programs of professions that are in great demand today. In our world of continuing globalization, English has been chosen as the language to provide education. Our undergraduate programs include the following:

- Aeronautical Engineering
- Professional Pilot Training
- Aviation Management

In addition to conducting research and providing engineering services in aviation, aeronautical engineering programs has the task of training graduates that will instruct in professional pilot training and other working areas in the aviation sector. It is for this reason that postgraduate courses will be available in the very near future. The accreditation which will reflect the quality of the education provided and which should be in place for the first graduates of the programs underlines the importance and aim of providing quality education.

Summer education is implemented in order to introduce students with the professional working environment. In addition to this, the necessary laboratory facilities are being developed.

It is also important to emphasize that in order to educate well-rounded students; we pay particular attention to the social, cultural, artistic and sportive aspects of training.

Prof. Dr. Süleyman TOLUN

Dean of Faculty of Aviation and Space Sciences



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# Faculty of Aviation and Space Sciences Programmes

## Aeronautical Engineering Programme

### **General Information about the Department of Aeronautical Engineering**

Aeronautical engineering represent is a branch of engineering that deals with the research, design, construction, science and technology of aircraft. Aeronautical Engineering program is one of the programs of the Aeronautics & Astronautics Faculty which started education in 2014. The program aims to educate the students with contemporary, innovative and creative ideas as well as following and contributing to the contemporary developments in the field. We want our students to be socially active while, conducting scientific work and having strong engineering formation throughout the program. As the technological advancements continue in a gradual progress in this field, the program will follow a parallel line with all these developments so that the graduates will already be aware of the economic development, the environmental issues, healthcare and energy issues as well as other related issues in this field and will already have developed skills to solve the problems relevant to this issues and to the sector. In this respect, to ensure utmost success in this field, the students are especially expected to be enthusiastic of physics, mathematics and technology.

**Official length of programme:** 4 years (excluding one year of English preparatory class for English programme), 2 semesters per year, 14 weeks per semester

### **Profile of the Programme and Method of Education**

The course are being delivered by reputed staff with industrial background and class discussion, and individual projects are implemented as the method of education. The undergraduate programs blend fundamentals with hands-on design experience. Our curriculum is solely based on preparing our students for the challenges of the 21st century business world in an increasingly global, continuously changing and competitively demanding world. The bachelor's degree offers courses in the following areas of specialization: Aerodynamics, Propulsion, Flight Dynamics, and Structure.

### **Employment Opportunities**

The sector of the civil aviation is the fastest growing sector for the last 40 years and is in a gradual and steady progress of development in our present day. The sector demands qualified staff in every aspect of the field. The graduates have much higher chances to be employed by the aircraft manufacture companies as well as the companies operating in civil aviation sector. As a major advantage, the income of aeronautical engineers is considerably higher than qualified staff employed in other sectors.

**Total Credits:** 153 Credit

**Mode of study:** full time

**Qualification Awarded:** Bachelor of Science (B.Sc.)

## **Aviation Management Programme**

### **General Information about the Department of Aviation Management**

Department of Aviation Management is another department of the Faculty of Aviation and Space Sciences. Civil aviation is a very fast developing sector in the present day. The aim of the Department of Aviation Management is, in accordance with the developments in aviation sector, is educating and training students to become very well qualified staff equipped with the most up-to-date knowledge and extensive qualifications so that they can serve in the most effective way for the sector. Besides, along with the very well qualified staff who are equipped with extensive theoretical and practical knowledge and skills, this department aims to educate and train managers and educators who can contribute to advanced scientific studies and research in aviation sector. The undergraduate program of Civil Air Transport Management, in general, aims to train and educate students who can put all sort of theoretical knowledge into practice successfully and contribute to developments in aviation sector. The program of Aviation Management has many common parts with other undergraduate programs such as business, law, human resources, and marketing and computer information systems.

**Official length of programme:** 4 years (excluding one year of English preparatory class for English programme), 2 semesters per year, 14 weeks per semester

### **Profile of the Programme and Method of Education**

Within the first two years of this program, students are trained and educated by highly experienced subject specialists so that they become very well qualified and experienced at the highest possible level in their subjects. Besides, throughout the process of education and training, the Information and Innovation Systems Centre and all sort of technical and technological equipment of the Near East University, the sister university of University of Kyrenia, will be used respectively. The students of this program have the opportunity to benefit extensively from the knowledge and experiences of teaching staff of the Faculty of Economics and Administrative Sciences, too. The bachelor's degree offers courses in the following areas of specialization: Airplane Maintenance, Ground Handling, Airport Management.

### **Job Opportunities**

Graduates of this department have the opportunities to be employed in various sectors at international level, state and private institutions and in aviation sector such as cargo services, flight operations, ground services of airports and designing airport services. The graduates of this programme have a significant advantage that this sector is growing rapidly and the demand for well-qualified staff is also increasing as well. In future, the need for qualified staff in this sector will apparently continue to increase.

**Total Credits:** 133 Credit

**Mode of study:** full time

**Qualification Awarded:** Bachelor of Aviation

## **Professional Pilot Programme**

### **General Information about the Department of Professional Pilot**

Department of Professional Pilot is the last department of Faculty of Aviation and Space Sciences. Civil aviation is a very fast developing sector in the present day. The aim of the Department of Professional Pilot is, in accordance with the developments in aviation sector, is educating and training students to become very well qualified pilots equipped with the most up-to-date knowledge and extensive qualifications so that they can serve in the most effective way in aviation sector. Besides, along with the very well qualified pilots who are equipped with extensive theoretical and practical knowledge and skills, this department aims to educate and train managers and educators who can contribute to advanced scientific studies and research in aviation sector. The undergraduate program of Professional Pilot, in general, aims to train and educate students who can put all sort of theoretical knowledge into practice successfully and contribute to developments in aviation sector in 21st century. The program of Professional Pilot will be in cooperation and collaboration with the Faculty of Engineering and Faculty of Law. During education theoretical courses for the Private Pilot License (PPL) and Airline Transport Pilot License (ATPL) are provided for the students as well as the flight training towards receiving PPL and CPL in the Flight Training Organisation. The graduates will also be ready to serve as an ATP after receiving licences from the General Directorate of Civil Aviation authority.

**Official length of programme:** 4 years

### **Profile of the Programme and Method of Education**

Within the first Professional Pilot Department and Flight Training Organization working closely, training well qualified pilots. The Students have the opportunity to continue the flight training at outsourced FTO's in Samsun Turkey, Ukraine and the USA until its move to its own bases on the island. Major Field of Studies: General Aviation, Theoretical courses for PPL and Flights, Theoretical courses for ATP and CPL flights

### **Job Opportunities**

Graduates of this programme will gain the right to be conferred upon the undergraduate diploma as well as Air Transport Pilot Licence (ATPL). The graduates will have extensive opportunities to be employed by state and private sector companies as pilots.

**Total Credits:** 136 Credit

**Mode of study:** full time

**Qualification Awarded:** Bachelor of Aviation

## **Level of Qualification**

Qualifications Framework- European Higher Education Area (QF-EHEA): 1

**Admission requirement(s):** High School Diploma, Proof of English Language proficiency  
Admission of Turkish nationals is by Placement through anationwide Student Selection Examination (ÖSS) administered by Assessment, Selection andPlacement Centre (ÖSYM). Admissions of Turkish Cypriotsis based on the University of Kyrenia Entrance and Placement exam. Admission of international students is based on their high school credentials.

## **Qualification Requirements**

For each programme the required University of Kyrenia Credits as mentioned previously, must be completed to graduate from the Faculty of Aviation and Space Sciences. In Aeronautical engineering programme 153 Credit equivalent to total 240ETCS is required. For Aviation Management and Professional Pilot Programme133 and 136 Credit, respectively, is required which areequivalent to total 240ETCS.

ECTS is a credit system designed to make it easier for students to move between different countries. Since they are based on the learning achievements and workload of a course, a student can transfer their ECTS credits from one university to another so they are added up to contribute to an individual's degree programme or training. ECTS helps to make learning more student-centred. It is a central tool in the Bologna Process, which aims to make national systems more compatible.

ECTS also helps with the planning, delivery and evaluation of study programmes, and makes them more transparent ([http://ec.europa.eu/education/ects/ects\\_en.htm](http://ec.europa.eu/education/ects/ects_en.htm)).

A student is required to have minimum pass grade from each course and obtain minimum 2.00/4.00 cumulative Grade point Average (cumulative GPA) .

## **For further details please contact:**

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## **Contact details for management staff**

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### **Examination Regulations, Assessment and Grading**

The examinations are a way of finding out whether the module objectives have been accomplished. Every module in the degree program has examinations. The type of examination to be held is given in each module description. At the beginning of each term, students are informed of the examination requirements. All examinations are done during the examination weeks. There are no lectures during examination weeks. Every effort is made to ensure that no more than one examination is taken by a student on the same day.

The assessment procedures, marking criteria, and examination regulations are also available for the students to examine if they wish so.

There may also be quizzes in each module to prepare the students better for the examinations.

Written examinations are usually done for each module (except the graduation project, master's seminar and thesis). There are usually two written examinations for each course: a mid-term examination and a final examination. The midterm examinations are done around 8 weeks after the start of a new semester. The final examinations are done at the end of each semester. The examination dates are published in the university calendar at the beginning of each semester.

Students are allowed to take a make-up exam if they have a valid reason for missing the exam. The date and time of the make-up exams are announced by the dean's office.

Students failing a course are also allowed to take resit examinations. Under certain conditions, they may be allowed into the exams even though they have passed the course. Graduate degree has no retake examinations.

### **Grading Scheme and Grades**

PERCENTAGE	COURSE GRADE	GRADE POINTS
90-100	AA	4,0 (Excellent)
85-89	BA	3,50 (Excellent)
80-84	BB	3,00 (Very Good)
75-79	CB	2,50 (Very Good)
70-74	CC	2,00 (Good)
65-69	DC	1,50 (Good)
60-64	DD	1,00 (Good)
50-59	FD	0,50 (Failed)
0-49	FF	0,00 (Failed)



## Programs Curriculum

### Aeronautical Engineering Program Curriculum

#### Year-1

Code	Course Name	Credit/ECTS	Pre-requisite
AER101	Introduction to Aeronautical Engineering	2(2-0-0)/3	
MEC101	Technical Drawing	3(2-0-2)/5	
CHE105	General Chemistry	4(3-0-2)/6	
PHY101	Physics I	4(3-0-2)/6	
MTH101	Calculus I	4(4-0-0)/6	
ENG101	English I	3(3-0-0)/4	
Elective	YIT103 Turkish for International Students I	0(4-0-0)/4	
		20/34(30)	
MTH112	Linear Algebra	3(3-0-0)/4	MTH102
AER102	Creativity and Innovation in Engineering Design	2(2-0-0)/3	MEC101
PHY102	Physics II	4(3-0-2)/6	PHY101
MTH102	Calculus II	4(4-0-0)/6	MTH101
ENG102	English II	3(3-0-0)/4	ENG101
CMP101	Computer Programming	3(2-2-0)/5	
Elective	YIT 104 Turkish for International Students II	0(4-0-0)/4	
AER120	Summer Internship I	0	
		19/32(28)	

#### Year -2

Code	Course Name	Credit/ECST	Pre-requisite
MEC203	Statics	3(3-0-0)/5	PHY101
MTH201	Differential Equations	4(4-0-0)/6	MTH102
MEC209	CAD and 3-D Printing	3(3-0-0)/5	MEC101
AER205	Engineering Materials	3(3-0-0)/4	CHE105
MEC207	Thermodynamics I	3(3-0-0)/4	PHY101
NTE1	Non-Technical Elective	3(3-0-0)/4	
TUR151*	Turkish I:Written Expression	0(2-0-0)/2	
AER200	Undergraduate Seminar I	0(1-0-0)/1	
		19/29 (31)	
MEC204	Dynamics	3(3-0-0)/5	MEC203
AER214	Mechanics of Materials	4(3-0-2)/6	MEC203
TE2	Technical Elective -2	3(3-0-0)/4	
AER208	Processes in Manufacturing	3(3-0-0)/4	AER205
AER204	Electrics and Electronics	4(3-0-2)/6	PHY102
MEC208	Thermodynamics II	3(3-0-0)/4	MEC207
TUR152*	Turkish II: Oral Expression	0(2-0-0)/2	TUR103
AER220	Summer Internship II	0	AER120
		20/29 (31)	

#### Year -3

Code	Course Name	Credit/ECTS	Pre-requisite
MEC355	Fluid Mechanics I	4(3-0-2)/6	MEC204

AER333	Aerospace Structures	3(3-0-0)/4	AER214
AER315	Mechanical Vibrations	3(3-0-0)/4	MEC204
EEE341	Signal and System Analysis	3(3-0-0)/4	AER204
MTH301	Numerical Analysis for Engineers	3(3-0-0)/5	MTH102
Elective	Technical Elective (1)	3(3-0-0)/4	
AIT151*	Principles of Ataturk and History of Revolution I	0(2-0-0)/2	
AER300	Undergraduate Seminar II	0(1-0-0)/1	
		19/28(30)	
AER334	Aerodynamics	4(3-0-2)/6	MEC306
AER324	Flight Mechanics	3(3-0-0)/4	MEC306
AER302	Control Systems	3(3-0-0)/4	EEE341
AER306	Dynamics of Systems	3(3-0-0)/4	MEC204
AER322	Jet Propulsion Power Plants	3(3-0-0)/4	
MTH312	Probability and Statistics in Engineering	3(3-0-0)/5	MTH102
AIT152*	Principles of Ataturk and History of Revolution II	0(2-0-0)/2	
AER320	Summer Internship III	0	AER220
		19/27(29)	

\*Only Turkish or TRNC Students will take.

#### Year -4

Code	Course Name	Credit/ECTS	Pre-requisite
AER422	Flight Dynamics & Control	4(4-0-0)/6	AER324
NTE	Non-Technical Elective	3(3-0-0)/4	
TE1	Technical Elective -1	3(3-0-0)/5	
TE1	Technical Elective -1	3(3-0-0)/5	
AEE1	AE Elective -1	3(3-0-0)/5	
AEE1	AE Elective -1	3(3-0-0)/5	
		19/30	
AER452	Aircraft Design	4(3-0-2)/7	AER334, AER322
Elective	AE Elective -2	3(3-0-0)/4	
Elective	AE Elective -2	3(3-0-0)/4	
Elective	AE Elective -2	3(3-0-0)/5	
Elective	Technical Elective -2	3(3-0-0)/4	
AER400	Graduation Design Project	2(0-4-0)/4	
		18/28	

TOTAL

153/240

## Aviation Management Program Curriculum

### YEAR-1, FALL SEMESTER-1

CODE	NAME OF THE COURSE	CREDIT/ECTS	PREREQUISITE
AFC101	Introduction to Aviation	2(2-0-0)/3	

CODE	NAME OF THE COURSE	CREDIT/ECTS	PREREQUISITE
AFC102	Principles of Flight	2(2-0-0)/3	
MTH171	Mathematics for Economics and Business I	3(3-0-0)/6	
EAS101	Introduction to Economics: Micro Economics	3(3-0-0)/6	
CMP151	Introduction to Information Technologies	3(2-2-0)/4	
ENG101	English I	3(3-0-0)/4	
TUR151*	Turkish I	0(2-0-0)/2	
AIT151*	Principles of Ataturk and History of Revolution I	0(2-0-0)/2	
<b>TOTAL</b>		<b>16/30</b>	
YIT151**	Turkish for International Students I (Elective)	0(4-0-0)/4	

#### YEAR-1, SPRING SEMESTER-2

CODE	NAME OF THE COURSE	CREDIT/ECTS	PREREQUISITE
EAS103	Introduction to Business	3(3-0-0)/6	-
EAS102	Introduction to Economics: Makro Economics	3(3-0-0)/6	-
MTH172	Mathematics for Economics and Business II	3(3-0-0)/6	MTH171
CMP152	Introduction to Computer Applications	3(2-2-0)/4	-
ENG102	English II	3(3-0-0)/4	ENG101
TUR152*	Turkish II	0(2-0-0)/2	TUR151
AIT152*	Principles of Ataturk and History of Revolution II	0(2-0-0)/2	AIT151
<b>TOTAL</b>		<b>15/30</b>	
YIT152**	Turkish for International Students II (Elective)	0(4-0-0)/4	YIT151

#### YEAR-2, FALL SEMESTER-3

CODE	NAME OF THE COURSE	CREDIT/ECTS	PREREQUISITE
AVN201	Air Traffic Rules and Services	3(3-0-0)/4	AFC101
AFC201	Aviation Safety Management Systems	3(3-0-0)/5	AFC101
EAS104	Principles of Management	3(3-0-0)/6	EAS103
EAS203	Accounting I	3(3-0-0)/6	
ENG201	Academic Reading and Writing Skills	3(3-0-0)/5	
AE1	Aviation Elective – 1	3(3-0-0)/4	
<b>TOTAL</b>		<b>18/30</b>	

#### YEAR-2, SPRING SEMESTER-4

CODE	NAME OF THE COURSE	CREDIT/ECTS	PREREQUISITE
AVN202	Business and Economics in Aviation	3(3-0-0)/4	EAS103
AFC204	Airport Operations	3(3-0-0)/5	AFC101
MTH281	Statistics I	3(3-0-0)/6	
EAS204	Accounting II	3(3-0-0)/6	EAS203
ENG204	Academic Communication Skills	3(3-0-0)/5	ENG201
AE2	Aviation Elective – 2	3(3-0-0)/4	
AE2	AVN220 Summer Internship I (Elective)	0	
<b>TOTAL</b>		<b>18/30</b>	

#### YEAR-3, FALL SEMESTER-5

CODE	NAME OF THE COURSE	CREDIT/ECTS	PREREQUISITE
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CODE	NAME OF THE COURSE	CREDIT/ECTS	PREREQUISITE
AFC301	Aviation Security Systems	3(3-0-0)/5	AFC201
AFC303	Sustainable Aviation and the Environment	3(3-0-0)/5	AFC201
EAS304	Marketing	3(3-0-0)/6	EAS103
EAS310	Organizational Behavior	3(3-0-0)/6	EAS104
NDE	Non-departmental Elective-1	3(3-0-0)/6	
<b>TOTAL</b>		<b>15/28</b>	

#### YEAR-3, SPRING SEMESTER-6

CODE	NAME OF THE COURSE	CREDIT/ECTS	PREREQUISITE
AFC302	Quantitative Analysis for Management	3(3-0-0)/5	EAS104
EAS308	Operations Management	3(3-0-0)/5	EAS104
EAS301	Financial Management I	3(3-0-0)/6	EAS104
AFC206	Supply Chain Management I	3(3-0-0)/5	EAS104
AE2	Aviation Elective – 2	3(3-0-0)/5	
AE2	AVN320 Summer Internship II	0	
<b>TOTAL</b>		<b>15/26</b>	

#### YEAR-4, FALL SEMESTER-7

CODE	NAME OF THE COURSE	CREDIT/ECTS	PREREQUISITE
AVN401	Airline Marketing	3(3-0-0)/4	AVN202
AVN403	Airline Management	3(3-0-0)/4	EAS308
EAS401	International Business Management	3(3-0-0)/5	EAS308
AE1	Aviation Elective – 1	3(3-0-0)/4	
NDE	Non-departmental Elective	3(3-0-0)/6	
NDE	Non-departmental Elective	3(3-0-0)/6	
<b>TOTAL</b>		<b>18/30</b>	

#### YEAR-4, SPRING SEMESTER-8

CODE	NAME OF THE COURSE	CREDIT/ECTS	PREREQUISITE
AVN402	Airport Management and Marketing	3(3-0-0)/4	AFC204
EAS404	Human Resource Management	3(3-0-0)/5	EAS310
AVN404	Aviation Law & Policy	3(3-0-0)/5	AVN201
AVN408	Aviation Term Homework	3(0-6-0)/6	AVN403
AE2	Aviation Elective – 2	3(3-0-0)/4	
NDE	Non-departmental Elective	3(3-0-0)/5	
<b>TOTAL</b>		<b>18/30</b>	

**GRAND TOTAL (GENEL TOPLAM)**

**133/240**

*\*These courses are obligatory for TRNC and TC students*

*\*\* Elective for other than TRNC and TR students*

**DEPARTMENTAL ELECTIVE COURSES**

<b>CODE</b>	<b>NAME OF THE COURSE</b>	<b>CREDIT/ECTS</b>	<b>PREREQUISITE</b>
AVN211	Aviation Finance	3(3-0-0)/4	EAS301
AVN212	Aviation Meteorology	3(3-0-0)/4	AFC101
AVN311	Fundamentals of Aviation Management	3(3-0-0)/5	EAS104
AVN312	Aircraft Maintenance and Airworthiness	3(3-0-0)/4	EAS308
AVN411	Airline Business Models	3(3-0-0)/4	AVN202
AVN412	Air Traffic Management	3(3-0-0)/4	AFC201
AVN413	Operations Planning and Control	3(3-0-0)/4	EAS308
AVN414	Aviation Information Systems	3(3-0-0)/4	AFC204
AVN415	Crew Resource Management	3(3-0-0)/4	AFC201
AVN416	Aviation Strategy in the Global Context	3(3-0-0)/5	AFC206
AFC211	Air Transportation	3(3-0-0)/4	AVN202
AFC212	Dangerous Goods Awareness	3(3-0-0)/4	AFC201
AFC311	Risk Management in Aviation	3(3-0-0)/4	EAS104
AFC312	Airline Operations	3(3-0-0)/4	AVN403
AFC 411	Crisis Management in Aviation	3(3-0-0)/4	AFC201
AFC412	Airline Operation and Scheduling	3(3-0-0)/5	AVN403
AFC413	Air Cargo Management and Operations	3(3-0-0)/5	AFC201

#### **NON DEPARTMENTAL ELECTIVE COURSES**

<b>CODE</b>	<b>NAME OF THE COURSE</b>	<b>CREDIT/ECTS</b>	<b>PREREQUISITE</b>
EAS281	Organization Theory	3(3-0-0)/6	EAS104
AFC282	Multi-Modal Transport Management	3(3-0-0)/5	AFC206
EAS301	Financial Management I	3(3-0-0)/6	
EAS302	Financial Management II	3(3-0-0)/6	EAS301
EAS381	Managerial Decision Making	3(3-0-0)/6	AFC302
EAS406	Services Marketing	3(3-0-0)/5	AVN202
EAS409	Management Information Systems	3(3-0-0)/6	EAS104
EAS481	Innovation Management	3(3-0-0)/6	EAS104
EAS482	Entrepreneurship Development	3(3-0-0)/6	EAS101

## Professional Pilot Program Curriculum

### YEAR-1, FALL SEMESTER-1

CODE	NAME OF THE COURSE	CREDIT/ECTS	PREREQUISITE
PHY101	Physics I	4(3-0-2)/7	
MTH101	Calculus I	4(4-0-0)/7	
ENG111	English I	3(3-0-0)/5	
CMP151	Introduction to Information Technologies	3(2-2-0)/5	
TUR151*	Turkish I	0(2-0-0)/2	
AIT151*	Principles of Ataturk and History of Revolution I	0(2-0-0)/2	
<b>TOTAL</b>		<b>14/28</b>	
YIT151**	Turkish for International Students I (Elective)	0(4-0-0)/4	

### YEAR-1, SPRING SEMESTER-2

CODE	NAME OF THE COURSE	CREDIT/ECTS	PREREQUISITE
PHY102	Physics II	4(3-0-2)/7	PHY101
MTH102	Calculus II	4(4-0-0)/7	MTH101
ENG112	English II	3(3-0-0)/5	ENG111
NDE	Non-departmental Elective	3(3-0-0)/5	
TUR152*	Turkish II	0(2-0-0)/2	TUR151
AIT152*	Principles of Ataturk and History of Revolution II	0(2-0-0)/2	AIT151
<b>TOTAL</b>		<b>14/32</b>	
YIT152**	Turkish for International Students II (Elective)	0(4-0-0)/4	YIT151

### YEAR-2, FALL SEMESTER-3

CODE	NAME OF THE COURSE	CREDIT/ECTS	PREREQUISITE
PLT010	Air Law PPL(A)	1(1-0-0)/2	
PLT020	Aircraft General Knowledge PPL(A)	3(3-0-0)/4	
PLT030	Flight Performance and Planning PPL(A)	2(2-0-0)/3	
PLT040	Human Performance and Limits PPL(A)	1(1-0-0)/2	
PLT050	Meteorology PPL(A)	2(2-0-0)/3	
PLT060	Navigation PPL(A)	3(3-0-0)/5	
PLT070	Operational Procedures PPL(A)	1(1-0-0)/2	
PLT080	Principles of Flight PPL(A)	2(2-0-0)/3	
PLT090	Communications PPL(A)	1(1-0-0)/2	
ENG211	English for Aviation I	3(3-0-0)/4	ENG112
<b>TOTAL</b>		<b>19/30</b>	

**YEAR-2, SPRING SEMESTER-4**

CODE	NAME OF THE COURSE	CREDIT/ECTS	PREREQUISITE
AE2	Aviation Elective - 2	3(3-0-0)/4	
AE2	Aviation Elective - 2	3(3-0-0)/4	
AE2	Aviation Elective - 2	3(3-0-0)/4	
AE2	Aviation Elective - 2	3(3-0-0)/5	
AE2	ENG212 English for Aviation II	3(3-0-0)/5	ENG211
PLT190	PPL Flights	1(0-2-0)/8	
<b>TOTAL</b>		<b>16/30</b>	

**YEAR-3, FALL SEMESTER-5**

CODE	NAME OF THE COURSE	CREDIT/ECTS	PREREQUISITE
PLT011	Air Law ATP (A)	5(5-0-0)/6	PLT190
PLT121	Aircraft General Knowledge – Powerplant ATP(A)	3(3-0-0)/4	PLT190
PLT221	Aircraft General Knowledge - Airframe ATP(A)	2(2-0-0)/3	PLT190
PLT321	Aircraft General Knowledge – Systems ATP(A)	1(1-0-0)/2	PLT190
PLT051	Meteorology ATP(A)	7(7-0-0)/8	PLT190
PLT091	VFR Communications ATP(A)	2(2-0-0)/3	PLT190
PLT390	PIC Flights I	1(0-2-0)/2	PLT190
<b>TOTAL</b>		<b>21/28</b>	

**YEAR-3, SPRING SEMESTER-6**

CODE	NAME OF THE COURSE	CREDIT/ECTS	PREREQUISITE
PLT022	Aircraft General Knowledge - Instruments ATP(A)	3(3-0-0)/4	PLT190
PLT031	Mass and Balance ATP(A)	3(3-0-0)/4	PLT190
PLT032	Flight Performance ATP(A)	5(5-0-0)/6	PLT190
PLT061	General Navigation ATP(A)	7(7-0-0)/8	PLT190
PLT081	Principles of Flight ATP(A)	4(4-0-0)/5	PLT190
PLT092	IFR communications ATP(A)	2(2-0-0)/3	PLT190
PLT391	PIC Flights II	1(0-2-0)/2	PLT190
<b>TOTAL</b>		<b>25/32</b>	

**YEAR-4, FALL SEMESTER-7**

CODE	NAME OF THE COURSE	CREDIT/ECTS	PREREQUISITE
PLT071	Operational Procedures ATP(A)	3(3-0-0)/5	PLT190
PLT041	Human Performance and Limits ATP(A)	6(6-0-0)/8	PLT190
PLT033	Flight Planning ATP(A)	3(3-0-0)/4	PLT190
PLT062	Radio Navigation ATP(A)	9(9-0-0)/11	PLT190
PLT491	NR Flights	1(0-2-0)/4	PLT190
<b>TOTAL</b>		<b>22/32</b>	

**YEAR-4, SPRING SEMESTER-8**

CODE	NAME OF THE COURSE	CREDIT/ECTS	PREREQUISITE
PLT492	IR FLIGHTS	1(0-2-0)/8	
PLT494	CPL FLIGHTS	1(0-2-0)/8	PLT391
PLT496	ME FLIGHTS	1(0-2-0)/7	
PLT400	AVIATION PROJECT	2(0-4-0)/9	
<b>TOTAL</b>		<b>5/32</b>	

**GRAND TOTAL (GENEL TOPLAM)****136/240***\*These courses are obligatory for TRNC and TC students**\*\* Elective for other than TRNC and TR students***NON DEPARTMENTAL ELECTIVE COURSES**

CODE	NAME OF THE COURSE	CREDIT/ECTS	PREREQUISITE
AER204	Electricsand Electronics	4(3-0-2)/6	PHY102
AFC212	Dangerous Goods Awareness	3(3-0-0)/4	
AFC301	Aviation Security Systems	3(3-0-0)/5	
AFC303	Sustainable Aviationandthe Environment	3(3-0-0)/5	
AFC311	Risk Managementin Aviation	3(3-0-0)/4	
AFC312	Airline Operations	3(3-0-0)/4	
AST218	Introductionto Astronomy	3(3-0-0)/5	PHY101
AFC412	Airline Operationand Scheduling	3(3-0-0)/5	
AFC413	Air Cargo Managementand Operations	3(3-0-0)/5	
AFC411	Crisis Managementin Aviation	3(3-0-0)/4	
AVN404	Human Resource Management	3(3-0-0)/4	
AVN411	Airline Business Models	3(3-0-0)/4	
MEC203	Statics	3(3-0-0)/4	PHY101
MEC204		3(3-0-0)/4	MEC203



## Course objectives and contents

### Aeronautical Engineering Program

Code	Course Name	Credit/ECS
AER101	<b>Introduction to Aeronautical Engineering</b>  To survey aerospace history, discuss pertinent topics and introduce basic concepts that promote an understanding of aerospace engineering and the profession. Introduction to flight vehicles in the atmosphere and in space; elements of aerodynamics, airfoils and wings; aerospace technologies including structures, materials and propulsion systems; elements of aircraft performance; basic principles of flight stability, control and systems integration;	2(2-0-0)/3
MEC101	<b>Technical Drawing</b>  Principles of engineering graphics with the emphasis on laboratory use of AUTOCAD software. Plane Geometry, geometrical constructions, joining of arcs, Dimensioning principles, principles of orthographic projection, isometric and oblique drawing, principles of sectioning, reading engineering drawing from blueprints.	3(2-0-2)/5
CHE105	<b>General Chemistry</b>  Introduction to atomic and electronic structure, chemical bonding, molecular structure and bonding theories, properties of liquids, solids and solutions, chemical equilibrium, kinetics, thermodynamics, metal complexes, organic compounds and nuclear chemistry.	4(3-0-2)/6
PHY101	<b>Physics I</b>  The goal of this course is to provide a calculus-based physics course to help students pursuing advanced studies in engineering develop conceptual understanding of physical principles, the ability to reason, and gain skills for problem solving.  Vectors; kinematics; particle dynamics work and energy; conservation of energy; system of particles; collisions; rotational motion.	4(3-0-2)/6
MTH101	<b>Calculus I</b>  Limits and continuity. Derivatives. Rules of differentiation. Higher order derivatives. Chain rule. Related rates. Rolle's and the mean value theorem. Critical Points. Asymptotes. Curve sketching. Integrals. Fundamental Theorem. Techniques of integration. Definite integrals. Application to geometry and science. Indeterminate forms. L'Hospital's Rule. Improper integrals. Infinite series. Geometric series. Power series. Taylor series and binomial series.	4(4-0-0)/6
MTH112	<b>Linear Algebra</b>	3(3-0-0)/4

Matrices, systems of Equations and Inevitability, Diagonal, Triangular and Symmetric Matrices, The Determinant Function, Evaluating Determinants by Row Reduction, Properties of the Determinant Function, Cofactor Expansion; Cramer's Rule, Euclidean n-space, Linear Transformation, Properties of Linear Transformations, Real Vector Spaces, Subspaces, Linear Independence, Basis and Dimension, Row Space, Column Space and Null space, Rank and Nullity, Inner Products, Angle and Orthogonality in Inner product Spaces , Orthogonal Bases; Gram-Schmidt Process, Eigenvalues and Eigenvectors, Diagonalization.

AER102 **Creativity and Innovation in Engineering Design** 2(2-0-0)/3

This course introduces student creative and innovative thinking and introduces the engineering professions using multidisciplinary, societally relevant content. Students develop engineering approaches to systems, generate and explore creative and innovative ideas, and use of computational methods to support design decisions. They are encouraged to participate student competitions with design challenges. Students experience the process of design and analysis in engineering including how to work effectively in teams. Students also develop skills in project management, engineering fundamentals, oral and graphical communication, logical thinking, and modern engineering tools (e.g., Excel, MATLAB, FORTRAN). They will learn to take the right steps in solving problems of engineering.

PHY102 **Physics II** 4(3-0-2)/6

Kinetic theory of ideal gases. Equipartition of energy. Heat, heat transfer and heat conduction. Laws of thermodynamics, applications to engine cycles. Coulombs law and electrostatic fields. Gauss's law. Electric potential. Magnetic field. Amperes law. Faradays law.

MTH102 **Calculus II** 4(4-0-0)/6

Lines and Planes. Functions of several variables. Limit and continuity. Partial differentiation. Chain rule. Tangent plane. Critical Points. Global and local extrema. Lagrange multipliers. Directional derivative. Gradient, Divergence and Curl. Multiple integrals with applications. Triple integrals with applications. Triple integral in cylindrical and spherical coordinates. Line, surface and volume integrals. Independence of path. Green's Theorem. Conservative vector fields. Divergence Theorem. Stokes' Theorem.

CMP101 **Computer Programming** 3(2-2-0)/5

Basic computer programming concepts for engineering computations. Programming in different languages will be discussed.

MEC203 **Statics** 3(3-0-0)/5

The study of forces, couples and resultants of force systems; free-body diagrams; two- and three-dimensional equilibrium, and problems involving friction; and centroids, center of gravity, and distributed forces.

MTH201	<b>Differential Equations</b>	4(4-0-0)/6
	<p>First-order differential equations. Higher order homogeneous linear differential equations. Solution space. Linear differential equations with constant coefficient. Non-homogeneous linear equations; variation of parameters, operator methods. System of linear differential equations with constant coefficients. Laplace transforms. Power series solutions. Bessel and Legendre equations. Orthogonal functions and Fourier expansions. Introduction to partial differential equations. First- and second-order linear PDE's. Separation of variables. Heat and wave equations.</p>	
MEC209	<b>CAD and 3-D Printing</b>	3(3-0-0)/5
	<p>Integration of computers into the design cycle. Interactive computer modeling and analysis. Geometrical modeling with wire frame, surface, and solid models. Finite element modeling and analysis. Curves and surfaces and CAD/CAM data exchange. The integration of CAD, CAE and CAM systems.</p>	
AER205	<b>Engineering Materials</b>	3(3-0-0)/4
	<p>Different types of materials used in aerospace. Metals, composites, ceramics, polymers. Failure prediction and prevention. Modes of material failure, fracture, fatigue, creep, corrosion, impact. Effect of high temperature and multiaxial loadings. High temperature materials. Cumulative damage in fatigue and creep. Materials selection.</p>	
MEC207	<b>Thermodynamics I</b>	3(3-0-0)/4
	<p>Basic principles of thermodynamics and their application to various systems composed of pure substances and their homogeneous non-reactive mixtures. Simple power production and utilization cycles.</p>	
MEC204	<b>Dynamics</b>	3(3-0-0)/5
	<p>Kinematics of particles and rigid bodies, Newton's laws of motion, and principles of work-energy and impulse-momentum for particles and rigid bodies.</p>	
AER214	<b>Mechanics of Materials</b>	4(3-0-2)/6
	<p>Mechanical behaviour of materials; stress; strain; shear and bending moment diagrams; introduction to inelastic action. Analysis and design of structural and machine elements subjected to axial, torsional, and flexural loadings. Combined stresses and stress transformation. Deflections. Introduction to elastic stability.</p>	
AER208	<b>Processes in Manufacturing</b>	3(3-0-0)/4
	<p>Fundamentals of manufacturing processes and their limitations, metrology, machine shop practice, safety and health considerations, forming, conventional machining and casting processes, welding and joining, plastic production, and non-conventional machining techniques. Sustainable technologies. Laboratory includes instruction and practice on conventional machine tools and a manufacturing project.</p>	

AER204	<b>Electrics and Electronics</b>	4(3-0-2)/6
	This course provides the basic phenomenon of Electrical Engineering. Topics covered are: Basic electrical quantities, fundamental circuit laws, sinusoidal steady-state analysis and transformers, three-phase circuits, principles of electromechanical energy conversion, DC and AC machines.	
MEC208	<b>Thermodynamics II</b>	3(3-0-0)/4
	Brief review of ideal gas processes. Semi-perfect gases and the gas tables. Mixtures of gases, gases and vapours, air conditioning processes. Combustion and combustion equilibrium. Applications of thermodynamics to power production and utilization systems: study of basic and advanced cycles for gas compression, internal combustion engines, power from steam, gas turbine cycles, and refrigeration.	
MEC355	<b>Fluid Mechanics I</b>	4(3-0-2)/6
	Basic concepts and principles of fluid mechanics. Classification of fluid flow. Hydrostatic forces on plane and curved surfaces, buoyancy and stability, fluids in rigid body motion. Basic properties of fluids in motion. Lagrangian and Eulerian viewpoints, material derivative, streamlines, etc. Mass, momentum, and energy conservation integral equations. Bernoulli equation. Basic concepts of pipe and duct flow. Introduction to Navier-Stokes equations. Similarity and model studie.	
AER333	<b>Aerospace Structures</b>	3(3-0-0)/4
	Analysis and design of aerospace structures from the standpoint of preliminary design. Deflection and stress analysis of structural components, including thin-walled beams. Material failure of highly stressed components, including connections. Buckling of thin-walled beams and semimonocoque structures. Durability and damage tolerance strategies for aerospace structures to avoid corrosion, fatigue, and fracture.	
AER315	<b>Mechanical Vibrations</b>	3(3-0-0)/4
	Transient vibrations under impulsive shock and arbitrary excitation: normal modes, free and forced vibration. Multi-degree of freedom systems, influence coefficients, orthogonality principle, numerical methods. Continuous systems; longitudinal torsional and flexural free and forced vibrations of prismatic bars. Lagrange's equations. Vibration measurements.	
EEE341	<b>Signal and System Analysis</b>	3(3-0-0)/4
	Presents fundamental principles and methods of signals and systems for aerospace engineering, and engineering analysis and design concepts applied to aerospace systems. Topics include linear and time invariant systems; convolution; transform analysis; and modulation, filtering, and sampling.	
MTH301	<b>Numerical Analysis for Engineers</b>	3(3-0-0)/5
	Roots of algebraic and transcendental equations; function approximation; numerical differentiation; numerical integration; solution of simultaneous	

algebraic equations; numerical integration of ordinary differential equations.

AER334 **Aerodynamics** 4(3-0-2)/6

Introduction to subsonic aerodynamics, including properties of the atmosphere; aerodynamic characteristics of airfoils, wings, and other components; lift and drag phenomena; and topics of current interest.

Flow conservation equations, incompressible Navier-Stokes equations, inviscid irrotational and rotational flows: the Euler equations, the potential and stream function equations. Elementary flows and their superposition, panel method for non-lifting bodies. Airfoil and wing characteristics, aerodynamic forces and moments coefficients. Incompressible flows around thin airfoils, Biot-Savart law, vortex sheets. Incompressible flow around thick airfoils, the panel method for lifting bodies. Incompressible flow around wings, Prandtl's lifting line theory, induced angle and down-wash, unswept wings, swept wings.

AER324 **Flight Mechanics** 3(3-0-0)/4

This course is a combination of aircraft performance and basic flight mechanics. It also includes the basics of the aerodynamic build-up of an aircraft to determine aerodynamic coefficients and the so-called stability and control derivatives. Except for takeoff and landing rolls, aircraft performance analyses entail analysis of steady flight conditions. Flight mechanics deals more with the trim and static stability of the aircraft for the steady flight conditions. Steady flight conditions are typically the starting point for small-perturbation dynamics and stability analyses.

AER302 **Control Systems** 3(3-0-0)/4

Mathematical modeling of dynamic systems; linearization. Laplace transform; transfer functions; transient and steady-state response. Feedback control of single-input, single-output systems. Routh stability criterion. Root-locus method for control system design. Frequency-response methods; Bode plots; Nyquist stability criterion.

AER306 **Dynamics of Systems** 3(3-0-0)/4

Kinematics of particles. Kinetics of particles. Newton's laws of motion, energy; momentum. Systems of particles. Kinematics of rigid bodies. Plane motion of rigid bodies: forces and accelerations, energy, momentum.

AER322 **Jet Propulsion Power Plants** 3(3-0-0)/4

Analysis and performance of various jet and rocket propulsive devices. Foundations of propulsion theory.

Principles of air-breathing jet engines (turbohaft, turboprop, turbojet, ramjet, scramjet) and their applications, aircraft engine matching. Design and analysis of inlets, compressors, combustion chambers, and other elements of propulsive devices. Emphasis is placed on mobile power plants for aerospace applications.

MTH312 **Probability and Statistics in Engineering** 3(3-0-0)/5

Axioms of probability theory. Events. Conditional probability. Bayes theorem. Random variables. Mathematical expectation. Discrete and continuous probability density functions. Transformation of variables. Probabilistic models, statistics, and elements of hypothesis testing (sampling distributions and interval estimation). Introduction to statistical quality control. Applications to engineering problems.

AER422 **Flight Dynamics & Control** 4(4-0-0)/6

General equations of motion of rigid airplanes and reduction to perturbed state flight situations.

Linear equations of motion, dynamic response, state-space methods; Mathematical modeling of airplane and control system analysis in state space. Dynamic stability, phugoid, short period, dutch roll, roll, spiral, and other important modes. Transfer functions and their application. Relationships with handling quality requirements. fundamentals of classical and modern control theory and applications to automatic flight controls. stability augmentation and control augmentation.

AER452 **Aircraft Design** 4(3-0-2)/7

Aircraft design including aerodynamic, structural, and power plant characteristics to achieve performance goals. Focus on applications ranging from commercial to military and from manpowered to high-speed to long-duration aircraft. Semester project is a collaborative effort in which small design groups complete the preliminary design cycle of an aircraft to achieve specific design requirements.

## **Elective Courses**

AER421 **Intro. to Computational Fluid Dynamics**

The primary focus of this course is to gain a solid foundation of numerical methods for convection-diffusion problems. The emphasis is on the physical meaning underlying the required mathematics. Conservation laws and boundary conditions, finite difference method for various problems; implementation of boundary conditions.

AER423 **Rotorcraft Aerodynamics**

The purpose of this module is to provide competency based training in rotary wing aircraft aerodynamics and operational characteristics. Basic rotor aerodynamics and dynamics, helicopter performance and trim, introduction to helicopter stability, control and vibration.

MEC303 **Design of Machine Elements**

Mechanical design principles. Design, manufacture & assembly of basic machine elements. Machine frames, welded, adhesive & bolted joints, fasteners. Stepped shafts & features, rolling element bearings; gear mechanics & manufacture. Design

for strength, design for other mechanical failure modes including fatigue, stress concentration. Safety, ergonomics & standards.

**AER455 Mechanics of Composite Materials**

Composite materials and their structural properties. Composite systems. Principles of manufacturing. Structural mechanics of laminated composites. Generalized Hooke's law. Classical lamination theory. Plane stress problems. Engineering applications. Design principles. Failure criteria and damage tolerance.

**AST218 Introduction to Astronomy**

A course in descriptive astronomy which covers the entire panorama of the universe from the origin and structure of the solar system, to the properties, origin and evolution of stars, galaxies and cosmology.

**AER213 Engineering Experimentation**

Scientific method; engineering method; experimental program; report writing; error analysis; principles of transducers; selection of instruments. Dynamic response of instruments; signal processing; digital data acquisition; interfacing transducers to computers; computer control of experiments; smart transducers.

**MEC315 Turbomachinery**

The course aims at giving an overview of different types of fluid machinery used for energy transformation, such as pumps, fans, compressors, as well as wind-, hydraulic, steam- and gas-turbines. Applications for transfer to power, as well as for energy use in refrigeration and the built environment are important.

**AER420 Experimental Aerodynamics**

Experimental techniques in aerodynamics; Pressure, temperature and velocity measurement techniques. Steady and unsteady pressure measurements and various types of pressure probes and transducers, errors in pressure measurements. Measurement of temperature using thermocouples, resistance thermometers, temperature sensitive paints and liquid crystals. Introduction to Velocity measurement using hot wire anemometry, Laser Doppler Velocimetry and Particle Image velocimetry. Data acquisition and digital signal processing techniques.

**AER456 Aeroelasticity**

Static Aeroelasticity: lift distribution on an elastic surface, divergence, aileron effectiveness and reversal. Unsteady aerodynamics: oscillatory and arbitrary motions of a 2-D thin airfoil, strip theory. Dynamic response (to gusts, etc.).

**MEC435 Advanced Energy Conversion**

Energy demand and available resources. Renewable sources: wind, wave, tide, geothermal, biogas and solar energy. Fossil fuels, combustion and combustion equipment. Steam generators. Atomic structure, nuclear reactions; decay, fusion and fission. Reactors. Environmental effects.

MEC447 **Experimental Stress Analysis**

General principles governing the approach to the solution of problems. Fundamental concepts of stress and strain in 2-D and 3-D. Mechanical and electrical strain gages, strain rosettes.

AER442 **GasDynamics**

Fundamentals of fluid mechanics. Fundamentals of thermodynamics. Introduction to compressible flow. Isentropic flow. Normal shock waves. Frictional flow in constant area ducts. Flow in constant area ducts with friction. Steady and two-dimensional supersonic flows.



## Aviation Management Program

Code	Course Name	Credit/ECS
AFC101	<p><b>Introduction to Aviation</b></p> <p>The introduction to aviation course gives information about aviation history, developments and issues such as airports, aviation organizations, and types of aircraft. This will be followed by more specific issues such as aviation weather and the threats weather pose to flight activities as well as a technological look at just what makes them fly and how they are propelled and controlled and how they get from one point to another.</p>	2(2-0-0)/3
AFC102	<p><b>Principles of Flight</b></p> <p>The scientific laws which govern the principle of flight are vital in understanding the forces that operate on an aircraft. It's aimed for the students to understand the interdependency of the forces and the resulting stability and other characteristics of flight.</p>	2(2-0-0)/3
MTH171	<p><b>Mathematics for Economics and Business I</b></p> <p>This course introduces students to a range of mathematical techniques used widely in economics and stresses the importance of understanding the logic of these techniques and the kinds of economic problems to which they can be applied. The lesson enables students to analyse a number of economic problems from a mathematical perspective and to incorporate this analysis within a wider understanding of these problems.</p>	3(3-0-0)/6
EAS101	<p><b>Introduction to Economics: Micro Economics</b></p> <p>This course is designed to help you build an understanding of the economics of the market place. In particular we focus on microeconomic principles that demonstrate the role and limitations of both competitive and imperfectly competitive markets in motivating socially efficient consumer, business, and public sector choices.</p>	3(3-0-0)/6
CMP151	<p><b>Introduction to Information Technologies</b></p> <p>This course is designed to be an introductory course in information technology. The course focuses on key concepts for understanding modern computer systems. Students will also learn about the capabilities and limitations of information technology systems.</p>	3(2-2-0)/4
EAS103	<p><b>Introduction to Business</b></p> <p>This course is designed as a survey course that will expose you to business terminology, concepts, and current business issues. The intent is to develop a viable business vocabulary, foster critical and analytical thinking, and refine your business decision-making skills. These skills will be acquired by the reading materials, exercises</p>	3(3-0-0)/6
EAS102	<p><b>Introduction to Economics: Macro Economics</b></p> <p>This course is an introduction to the behavioral science of economics which focuses on the aggregate behavior of households, firms and the government. Topics covered include gross domestic product, national income, economic growth, unemployment, inflation, the business cycle, fiscal policy and monetary policy, and international trade.</p>	3(3-0-0)/6
MTH172	<p><b>Mathematics for Economics and Business II</b></p> <p>This course introduces students to a range of advanced mathematical techniques used widely in economics and stresses the importance of</p>	3(3-0-0)/6

Code	Course Name	Credit/ECS
	understanding the logic of these techniques and the kinds of economic problems to which they can be applied. The lesson enables students to analyse a number of economic problems from a mathematical perspective and to incorporate this analysis within a wider understanding of these problems.	
CMP152	<b>Introduction to Computer Applications</b> This course is designed to be an advance course in information technology. The course focuses on key concepts for understanding modern computer systems. Students will also learn about the capabilities and limitations of information technology systems.	3(2-2-0)/4
AVN201	<b>Air Traffic Rules and Services</b> This introductory course provides a framework of the civil aviation system. Students gain insight into how the air law referring to airline industry has developed, what are the functions of either national or international civil aviation organizations, and the functions of air traffic services.	3(3-0-0)/4
AFC201	<b>Aviation Safety Management Systems</b> This course will examine various aspects of aviation flight and ground safety program management in respect to the historical development of aviation safety considerations. Aviation safety program development, aviation human factors issues, aviation accident causation models, Safety Management Systems (SMS) and other areas relevant to aviation safety will be discussed. Case studies derived from actual Aviation Accident Reports will be examined. Finally, a cluster of research findings in different aviation organizations will be reviewed and conferred.	3(3-0-0)/5
EAS104	<b>Principles of Management</b> This course is an introduction to the management function. It will focus on the theory and fundamental concepts of management including planning, organization, leadership, and control. This class will review the evolution of management thought, function and practice and will stress current approaches and emerging concepts.	3(3-0-0)/6
EAS203	<b>Accounting I</b> The main goal of this course to understand the accounting cycle. To understand and carry out the general accounting practices, each steps of the accounting cycle is discussed and practiced. Additionally, the main accounting reports are prepared and explained. The information contained in the published financial reports of companies is fundamental to business analysis and to corporate decision making	3(3-0-0)/6
AVN202	<b>Business and Economics in Aviation</b> This introductory course provides a framework of the aviation industry in a global context and prepares you for the following modules of the diploma. Gain insight into how the airline industry has responded to an ever changing economic and geopolitical landscape, and how you can use this information to effect change and promote business development at your own workplace. This is an intensive course that utilizes case studies, classroom discussions and lectures, requiring both a pre-course assignment as well as case study preparation.	3(3-0-0)/4
AFC204	<b>Airport Operations</b> This course will provide the students with an understanding of the major elements in the process of airport planning and management from a	3(3-0-0)/5

Code	Course Name	Credit/ECS
	system perspective. The course will cover such topics as airport financing and privatization, site selection and environment impact, airport capacity and delays, terminal plan and design, ground access plan, daily operations and security, international difference, multiple-airport system and airport's relationship with airlines.	
MTH281	<b>Statistics I</b>	3(3-0-0)/6
EAS204	<b>Accounting II</b> The main goal of this course to understand the accounting cycle. To understand and carry out the general accounting practices, each steps of the accounting cycle is discussed and practiced. Additionally, the main accounting reports are prepared and explained. The information contained in the published financial reports of companies is fundamental to business analysis and to corporate decision making. These accounts provide valuable information that analysts use to assess the past and future performance of a company. This module will consider how the accounts can be put to their best use and the ways in which may influence them.	3(3-0-0)/6
AFC301	<b>Aviation Security Systems</b> This course improves students' understanding of the aviation security structure and study key management principles and best practices used by industry experts. This course aims to identify current security risks, learn how to manage security risks and incidents, and analyze various emergency planning response options.	3(3-0-0)/5
AFC303	<b>Sustainable Aviation and the Environment</b> The future of the aviation industry depends on policy makers being able to make this growth sustainable and address the issues of climate change and other environmental impacts of the aviation industry. The aviation and the aerospace industry have taken positive steps towards minimizing the effects of environmental impact. This course discusses the current steps being taken to address environmental issues in the aviation and the aerospace industry, the technological advancements being made towards a sustainable future and the effect of policies like a carbon tax on industry.	3(3-0-0)/5
EAS304	<b>Marketing</b> Students will improve their ability to make effective marketing decisions, including assessing marketing opportunities and developing marketing strategies and implementation plans. Course topics include market-oriented strategic planning, marketing research and information systems, buyer behavior, target market selection, competitive positioning, product and service planning and management, pricing, distribution, and integrated communications, including advertising, public relations, Internet marketing, social media, direct marketing, and sales promotions. Through a combination of interactive discussions, cases, practical examples, individual assignments, and a group project, the course applies marketing topics to consumer and business-to-business products, services, and nonprofit organizations.	3(3-0-0)/6
EAS310	<b>Organizational Behavior</b> This course integrates the study of management principles and practices with the study of human behavior within organizations. The focus will be upon translation of management and organizational behavior theory to	3(3-0-0)/6

Code	Course Name	Credit/ECS
	practices that result in organizational effectiveness, efficiency, and human resource development. The primary goal of this course is to prepare students for advanced leadership roles in modern organization.	
AFC302	<b>Quantitative Analysis for Management</b> The aim of this course is to introduce an application of a scientific approach to solving management problems in order to help managers make better decisions. As implied by this definition, management science encompasses a number of mathematically oriented techniques that have either been developed within the field of management science or been adapted from other disciplines, such as the natural sciences, mathematics, statistics, and engineering.	3(3-0-0)/5
EAS308	<b>Operations Management</b> This course provides students with concepts, techniques and tools to design, analyze, and improve core operational capabilities, and apply them to a broad range of application domains and industries. It emphasizes the effect of uncertainty in decision-making, as well as the interplay between high-level financial objectives and operational capabilities. Topics covered include production control, risk pooling, quality management, process design, and revenue management. Also included are case studies, guest lectures, and simulation games which demonstrate central concepts	3(3-0-0)/5
EAS301	<b>Financial Management I</b> This is an introductory course in financial management, with an emphasis on the major decisions made by the financial executive of an organization. The student studies topics in the financial management of profit-seeking organizations. A major objective is the development of analytical and decision-making skills in finance through the use of theory questions and practical problems	3(3-0-0)/6
AFC206	<b>Supply Chain Management I</b> This course aims to provide a strategic framework to analyze the design, planning and operational decisions within supply chains. Also, this course identifies the key drivers and determines how they affect supply chain performance on a conceptual and practical level.	3(3-0-0)/5
AVN401	<b>Airline Marketing</b> This course provides information about the global and regional air transport market conditions and the impact of developing competition on the market. It also discusses the components of the airline service market and their effective usage in marketing.	3(3-0-0)/4
AVN403	<b>Airline Management</b> This course provides an overview of airline management decision processes with a focus on economic issues and their relationship to operations planning models and decision support tools. It emphasizes the application of economic models of demand, pricing, costs, and supply to airline markets and networks, and it examines industry practice and emerging methods for fleet planning, route network design, scheduling, pricing and revenue management. Emphasis is placed on the interactions between the components of airline management and profit objectives in competitive environments.	3(3-0-0)/4
EAS401	<b>International Business Management</b> This course provides an overview of the environment, concepts, and	3(3-0-0)/6

Code	Course Name	Credit/ECS
	basic differences involved in international business. Topics include forms of foreign involvement, international trade theory, governmental influences on trade and strategies, international organizations, multinational corporations, personnel management, and international marketing. Upon completion, students should be able to describe the foundation on international business.	
AVN402	<b>Airport Management and Marketing</b> The aim of the unit is to provide a comprehensive overview of the fundamental and important concepts, theories and principles of Airport Management and marketing and how they are applied to aviation industry.	3(3-0-0)/4
EAS404	<b>Human Resource Management</b> This course introduces the functions of personnel/human resource management within an organization. Topics include equal opportunity and the legal environment, recruitment and selection, performance appraisal, employee development, compensation planning, and employee relations. Upon completion, students should be able to anticipate and resolve human resource concerns.	3(3-0-0)/6
AVN404	<b>Aviation Law &amp; Policy</b> This lesson covers the air law considerations which consolidate fundamentals of global air transportation activities in view of both technical and non-technical (commercial) aspects where the treaties are revised as well as freedoms of air, rights of nations and aviation authorities, and all the relevant norms.	3(3-0-0)/5

#### DEPARTMENTAL ELECTIVE COURSES

Code	Course Name	Credit/ECS
AVN211	<b>Aviation Finance</b> The Aviation Finance aims to advance your understanding of all aspects of aviation finance, with specific focus on the practical features of global aviation markets. It encourages you to develop creative and analytical approaches to problem solving in the aviation finance and leasing sphere and to enhance your interpersonal and leadership skills	3(3-0-0)/4
AVN212	<b>Aviation Meteorology</b> To provide an understanding of the physical properties of the atmosphere and how they affect the weather, with an emphasis on the factors affecting aviation.	3(3-0-0)/4
AVN311	<b>Fundamentals of Aviation Management</b> This course will provide all Aviation students with a thorough understanding of the industry, opportunities, safety concerns, hazards, success factors and many more vital components such as types of aviation companies and operations. The structure of aviation regulations and authorities, basic aerodynamics, flight operations and rules, aviation economics, career paths in aviation, aviation security, emergency response and service orientation	3(3-0-0)/5
AVN312	<b>Aircraft Maintenance and Airworthiness</b> This course covers the vocabulary, practice and technologies of aircraft maintenance management, the areas of concern for maintenance	3(3-0-0)/4

Code	Course Name	Credit/ECS
	professionals, some tools used in the planning and control of maintenance, the personnel issues of training and safety, the processes of maintenance program development, and the aviation regulatory framework in which continuing airworthiness and aircraft maintenance is managed. Key areas of study: Aircraft maintenance concepts, aircraft maintenance in practice continuing airworthiness regulations maintenance programs and planning ageing aircraft	
AVN411	<b>Airline Business Models</b> Understand what it takes to lead an airline to success through this dynamic learning environment! such as Business models product development, network analysis and planning, pricing and revenue management, Distribution and sales, aircraft evaluation financing and acquisition, marketing and branding. Aircraft scheduling	3(3-0-0)/4
AVN412	<b>Air Traffic Management</b> The aim of this course is to introduce students to Air Traffic Management (ATM). Students will be introduced to fundamental concepts in ATM, including communications, navigation and surveillance infrastructure, regulatory frameworks, and operational procedures. Students will also be introduced to contemporary issues in ATM, including concepts of 'free flight' and associated changes in ATM systems.	3(3-0-0)/4
AVN413	<b>Operations Planning and Control</b> Effective Operation planning and control now stands at the core of every successful organizations as manufacturers strive to increase productivity without incurring unnecessary costs. As the need to deal effectively with the problems of production scheduling becomes more critical, staff needs to have a comprehensive understanding of the principles and functions of operation planning and control	3(3-0-0)/4
AVN414	<b>Aviation Information Systems</b> Throughout this course, information systems and management specific to airlines will be considered. Topics include: Aviation operational information; The evolution of Information Systems: A Management perspective; Structure of information in the future; Standard aviation information; Structure of Aviation Operational Information: Operator document systems; Flight operations information interchange; Management of Aviation Operational Information; Structured information for the cockpit; Strategic uses of Information Systems; Establishing a shared information management scheme; Display of electronic Information; Managing information system resources: information and technology; Airline Information Security Management; System Wide Information Management: Future ATM Information Networks; Future of aviation operational information	3(3-0-0)/4
AVN415	<b>Crew Resource Management</b> This course aims to provide a systematic approach to identify CRM in the cockpit, but also emphasizes that the concepts and training applications provide generic guidance and lessons learned for a wide variety of "crews" in the aviation system as well as in the complex and high-risk operations of many non-aviation settings.	3(3-0-0)/4
AVN416	<b>Aviation Strategy in the Global Context</b> This course focuses on the strategic role of the manager, emphasizing	3(3-0-0)/5

Code	Course Name	Credit/ECS
	insights relating to the process of strategy development. You will learn to develop skills in influencing an organisation to achieve its goals or mission	
AFC211	<b>Air Transportation</b> Through this course, students become familiar with the way an airport is organized, how air systems work and how flights are scheduled. Airport design, small craft transportation systems and global aviation are all subjects that may also be covered in an academic program in this field.	3(3-0-0)/4
AFC212	<b>Dangerous Goods Awareness</b> This course will provide you with the knowledge and understanding to work safely within the regulations covering dangerous goods by air. The course will cover the recognition, handling, storage and shipping of dangerous goods during operations involving aircraft.	3(3-0-0)/4
AFC311	<b>Risk Management in Aviation</b> This course aims to provide a systematic approach to identify risks, perform risk analysis, plan risk responses and monitor and control risks in aviation.	3(3-0-0)/4
AFC312	<b>Airline Operations</b> This course provides an overview of the fundamentals of airline operational strategy. You will examine the various types of airline route structures, in particular hub-and-spoke and point-to-point networks. Based on airline network strategy, fleet planning is also investigated. The airline as a product will be explored including product design and alliance strategies. The importance of fuel on airline operations will be evaluated in terms of its economic impact, and special consideration will be given to fuel conservation. All of these aspects will then be encapsulated in the context of air fare structures and their distribution and yield management and their importance for airline operations	3(3-0-0)/4
AFC313	<b>Introduction to Astronomy</b>	3(3-0-0)/5
AFC 411	<b>Crisis Management in Aviation</b> This course on crisis management offers students the basics in identifying, preventing, and controlling crisis situations in aviation. Crisis management basics, from preparation to training and compliance are discussed, as are various stages of a crisis, and the need to establish a crisis management team. Clearly identifying the roles and functions of each crisis management team member is essential for the ultimate success of contingency planning, which is also discussed. Students will receive extensive guidance on: Crisis management concepts, Crisis management plans, Crisis management teams, Crisis management facilities	3(3-0-0)/4
AFC412	<b>Airline Operation and Scheduling</b> Explores a variety of models and optimization techniques for the solution of airline schedule planning and operations problems. Schedule design, fleet assignment, aircraft maintenance routing, crew scheduling, passenger mix, and other topics are covered. Recent models and algorithms addressing issues of model integration, robustness, and operations recovery are introduced. Modeling and solution techniques designed specifically for large-scale problems, and state-of-the-art applications of these techniques to airline problems are detailed.	3(3-0-0)/5
AFC413	<b>Air Cargo Management and Operations</b>	3(3-0-0)/5

Code	Course Name	Credit/ECS
	This course introduces you to the international air cargo mode. You will learn about the economics underpinning air cargo operations, the regulatory environment as it relates to the international air cargo mode, the roles of the air cargo mode in global supply chains, the air cargo services offered to the public, the rationale for and the forms of strategic partnerships and alliances employed in the air cargo industry, and the strategies employed by the various key stakeholders.	

## Professional Pilot Program

Code	Course Name	Credit/ECS
PHY101	<b>Physics I</b> The goal of this course is to provide a calculus-based physics course to help students pursuing advanced studies in engineering develop conceptual understanding of physical principles, the ability to reason, and gain skills for problem solving. Vectors; kinematics; particle dynamics work and energy; conservation of energy; system of particles; collisions; rotational motion.	4(3-0-2)/7
MTH101	<b>Calculus I</b> Limits and continuity. Derivatives. Rules of differentiation. Higher order derivatives. Chain rule. Related rates. Rolle's and the mean value theorem. Critical Points. Asymptotes. Curve sketching. Integrals. Fundamental Theorem. Techniques of integration. Definite integrals. Application to geometry and science. Indeterminate forms. L'Hospital's Rule. Improper integrals. Infinite series. Geometric series. Power series.	4(4-0-0)/7
CMP151	<b>Introduction to Information Technologies</b> This course is designed to be an introductory course in information technology. The course focuses on key concepts for understanding modern computer systems. Students will also learn about the capabilities and limitations of information technology systems.	3(2-2-0)/5
PHY102	<b>Physics II</b> Kinetic theory of ideal gases. Equipartition of energy. Heat, heat transfer and heat conduction. Laws of thermodynamics, applications to engine cycles. Coulombs law and electrostatic fields. Gauss's law. Electric potential. Magnetic field. Amperes law. Faradays law.	4(3-0-2)/7
MTH102	<b>Calculus II</b> Lines and Planes. Functions of several variables. Limit and continuity. Partial differentiation. Chain rule. Tangent plane. Critical Points. Global and local extrema. Lagrange multipliers. Directional derivative. Gradient, Divergence and Curl. Multiple	4(4-0-0)/7



Code	Course Name	Credit/ECS
	integrals with applications. Triple integrals with applications. Triple integral in cylindrical and spherical coordinates. Line, surface and volume integrals. Independence of path. Green's Theorem. Conservative vector fields. Divergence Theorem. Stokes' Theorem.	
PLT010	<b>Air Law PPL(A)</b> Air Law is fundamental for all pilots. This course covers the origins of aviation law before covering the practical elements of the rules of the air, personnel licensing, and the operational aspects of Air Law as they affect the PPL holder.	1(1-0-0)/2
PLT020	<b>Aircraft General Knowledge PPL(A)</b> This course introduces professional pilot students the single engine light aircrafts, its main components, control surfaces, the structures of airframe, loads on the aircraft on ground and in air, power plants, fuels used and the aircraft systems and emergency drills.	3(3-0-0)/4
PLT030	<b>Flight Performance and Planning PPL(A)</b> The aim of this course to give information about; mass and balance considerations; loading, CG calculation, load and trim sheet, performance of TMGs; flight planning for VFR flights, fuel planning, pre-flight preparation, ICAO flight plan, flight monitoring and in-flight re-planning.	2(2-0-0)/3
PLT040	<b>Human Performance and Limits PPL(A)</b> Human factor is cited as a major cause in over 70% of all accidents, and it is widely agreed that a better understanding of human performance and limitations - both physical and psychological - would help to reduce human error and improve flight safety.	1(1-0-0)/2
PLT050	<b>Meteorology PPL(A)</b> To define and explain terms of atmosphere, meteorology terms, pressure and altimeter systems, meteorological phenomenon in atmosphere, hazardous meteorological phenomenon for aircraft, weather reports and documents. These will be covered as a basic course and in accordance to the regulations governing PPL courses.	2(2-0-0)/3
PLT060	<b>Navigation PPL(A)</b> The basic principles of <a href="#">navigation</a> , which includes the process of planning, recording, and controlling the movement of an aircraft from one place to another. In addition to this some basic knowledge regarding radio aids.	3(3-0-0)/5
PLT070	<b>Operational Procedures PPL(A)</b> This course involves a careful examination of operational procedures for PPL level. Emphases are on flight preparation and in-flight procedures and performance and operating limitations.	1(1-0-0)/2
PLT080	<b>Principles of Flight PPL(A)</b> A thorough understanding of the Principles of Flight is essential for pilot candidates if they are to fully value the flight characteristics of their aircraft and become safe and capable pilots. The scientific laws which govern the principle of flight are vital in understanding the forces that operate on an aircraft. The interdependency of the	2(2-0-0)/3

Code	Course Name	Credit/ECS
	forces and the resulting stability and other characteristics of flight must be understood by pilot candidates.	
PLT090	<b>Communications PPL(A)</b> Training on Radio-telephony R/T transmission and communications rules and procedures. Explanations of communication loss, danger and emergency procedures are another aspect of the course.	1(1-0-0)/2
ENG211	<b>English for Aviation I</b> The aim of this course to give sufficient information about Aviation English and make practice in aviation English conversation and pronunciation.	3(3-0-0)/4
AE2	<b>ENG212 English for Aviation II</b> The aim of this course to give sufficient information about Aviation English and make practice in aviation English conversation and pronunciation.	3(3-0-0)/5
PLT011	<b>Air Law ATP (A)</b> A sound knowledge of Air Law is fundamental for all pilots. This course covers the origins of aviation law before covering the practical elements of the rules of the air, personnel licensing, and the operational aspects of Air Law as they affect the Airline Transport Pilot.	5(5-0-0)/6
PLT121	<b>Aircraft General Knowledge – Powerplant ATP(A)</b> This unit will develop learners’ understanding of the principles of aircraft piston engine and gas turbine and their application in aircraft. The working cycle of engines will related to the performance of aircraft and topics such as engine construction, lubrication and cooling will be explored.	3(3-0-0)/4
PLT221	<b>Aircraft General Knowledge - Airframe ATP(A)</b> The course covers construction and attachment methods, materials, Airplane: wings, tail surfaces and control surfaces, Design and construction, Structural component, Loads, stresses and aero elastic vibrations. Fuselage, landing gear, doors, floor, windscreen and windows	2(2-0-0)/3
PLT321	<b>Aircraft General Knowledge – Systems ATP(A)</b> System design, loads, stresses, maintenance, hydraulics, landing gear, wheels, tyres, brakes. Pneumatics; pressurization and air-conditioning Systems. Anti-icing and de-icing systems. Fuel system, electrics, automatic flight control Systems, communication systems, flight management system (FMS)	1(1-0-0)/2
PLT051	<b>Meteorology ATP(A)</b> The aim of that course to make the pilots to understand the physical processes in the atmosphere, interpret the actual and forecast weather conditions in the atmosphere, show understanding of the meteorological hazards and their effects on an aircraft.	7(7-0-0)/8
PLT091	<b>VFR Communications ATP(A)</b> Definitions. General operating procedures, Relevant weather information terms (VFR). Action required to be taken in case of communication failure. Distress and urgency procedures, General principles of VHF propagation and allocation of frequencies.	2(2-0-0)/3

Code	Course Name	Credit/ECS
PLT022	<b>Aircraft General Knowledge - Instruments ATP(A)</b> Sensors and instruments, measurement of air data and gas parameters. Magnetism: direct reading compass and flux valve, Gyroscopic instruments, Communication systems, Alerting systems, Integrated instruments: electronic displays, Flight management system (general basics), Digital circuits and computers	3(3-0-0)/4
PLT031	<b>Mass and Balance ATP(A)</b> This course is designed to be introductory information about purpose of mass-and-balance considerations, loading, and fundamentals of centre-of-gravity. Calculations mass-and-balance details of aircraft, determination of cg position and cargo handling.	3(3-0-0)/4
PLT032	<b>Flight Performance ATP(A)</b> Performance legislation; airworthiness requirements according to CS-23 and Cs-25. General performance theory, stages of flight, definitions, terms and concepts. Performances of single-engine and multi engines airplanes.	5(5-0-0)/6
PLT061	<b>General Navigation ATP(A)</b> The goal of this course is to provide a information about basics of navigation, magnetism and compasses, charts, dead reckoning (DR) navigation and in-flight navigation.	7(7-0-0)/8
PLT081	<b>Principles of Flight ATP(A)</b> Basics of aerostatics, basics of subsonic aerodynamics, aerodynamics of airships, stability, controllability, limitations, propellers, basics of airship flight mechanics, mach number or shockwaves, buffet margin or aerodynamic ceiling. Drag, CLMAX augmentation, High-Speed Aerodynamics, Stability, controls of airplane and imitations.	4(4-0-0)/5
PLT092	<b>IFR communications ATP(A)</b> Meanings and significance of associated terms, air traffic control abbreviations, Q-code groups commonly used in RTF air– ground communications action required to be taken in case of communication failure. Distress and urgency procedures relevant weather information term. General principles of vhf propagation and allocation of frequencies	2(2-0-0)/3
PLT071	<b>Operational Procedures ATP(A)</b> This course is designed to be introductory information about general requirements, ICAO Annex 6, definitions, operational requirements, operational procedures, all-weather operations, instruments and equipment. Flight crew, manuals, logs and records. Flight and duty-time limitations and rest. Requirements, state the requirements regarding flight-duty, duty and rest-period records. Transport of dangerous goods by air. Long-range flights, flight management. MNPS airspace, special operational procedures and hazards.	3(3-0-0)/5
PLT041	<b>Human Performance and Limits ATP(A)</b> Human factors: Basic concepts; human factors in aviation, accident statistics, flight safety concepts, safety culture, basics of flight physiology, man and environment: the sensory system,	6(6-0-0)/8

Code	Course Name	Credit/ECS
	central, peripheral and autonomic nervous systems, vision, hearing, equilibrium, integration of sensory inputs. Health and hygiene, problem areas for pilots: Intoxication. Basic aviation psychology.	
PLT033	<b>Flight Planning ATP(A)</b> Flight planning for VFR flights: VFR navigation plan, routes, airfields, heights and altitudes from VFR charts, communications and radio-navigation planning data. Flight planning for IFR flights; IFR navigation plan, airways and routes, courses and distances from en route charts, communications and radio-navigation planning data. Fuel planning. Pre-flight preparation, flight monitoring and in-flight replanning	3(3-0-0)/4
PLT062	<b>Radio Navigation ATP(A)</b> Basic radio propagation theory; electromagnetic waves, antennas. Radio aids; ground D/F, non-directional beacon (NDB)/ automatic direction finder (ADF), VOR and doppler VOR, DME, ILS, RADAR. Aarea navigation systems, RNAV/FMS, EFIS and global navigation satellite systems	9(9-0-0)/11

#### NON DEPARTMENTAL ELECTIVE COURSES

CODE	NAME OF THE COURSE	CREDIT/ECTS
AER204	<b>Electricsand Electronics</b> This course is designed to be an introductory course in electrics and electronics for the first step of understanding aviation electrics and electronics. Definitions, basic formulas and calculations for problem solving in electrics and electronics environment	4(3-0-2)/6
AFC212	<b>Dangerous Goods Awareness</b> Legislation; Cargo and baggage acceptance, including: Hidden dangerous goods. Limitations, including: Passengers and crews baggage allowances. Classes, divisions and packing groups, Identification of dangerous goods, packing overview, marking and labeling, handling of dangerous goods, provision of information and emergency procedures.	3(3-0-0)/4
AFC301	<b>Aviation Security Systems</b> This course is intended to provide an understanding of safety management systems (SMS) by addressing to the fundamental components stipulated in the ICAO framework, including Risk Management, Human Factors, Security, Safety Culture and Investigation/Auditing techniques. The course goes beyond a business/ quality management system as it is also focused on how people contribute to the safety performance of an organisation also cover the technical aspects impacting aviation safety, particularly the contribution of aircraft/airport safety systems to the mitigation of risks inherent to flight operations.	3(3-0-0)/5
AFC303	<b>Sustainable Aviationandthe Environment</b> The future of the aviation industry depends on policy makers being able to make this growth sustainable and address the	3(3-0-0)/5

CODE	NAME OF THE COURSE	CREDIT/ECTS
AFC311	<p>issues of climate change and other environmental impacts of the aviation industry. The aviation and the aerospace industry have taken positive steps towards minimizing the effects of environmental impact. This course discusses the current steps being taken to address environmental issues in the aviation and the aerospace industry, the technological advancements being made towards a sustainable future and the effect of policies like a carbon tax on industry</p> <p><b>Risk Management in Aviation</b></p> <p>Risk management course is a systems-based approach that focuses on the identification of hazards involved in each aspect of the operation, whether it involves aircraft flight operations, cockpit procedures, aircraft maintenance, turn-around, ticketing, scheduling, or baggage handling. As an integral and required part of a safety management system, operational risk management formalizes this approach by implementing a logic-driven process to analyze the degree of risk associated with identified hazards, recommending risk-based solutions, and monitoring the effectiveness of these solutions.</p>	3(3-0-0)/4
AFC312	<p><b>Airline Operations</b></p> <p>This course provides an overview of the fundamentals of airline operational strategy and examines the various types of airline route structures, in particular hub-and-spoke and point-to-point networks. Based on airline network strategy, fleet planning is also investigated. The airline as a product will be explored including product design and alliance strategies. The importance of fuel on airline operations will be evaluated in terms of its economic impact, and special consideration will be given to fuel conservation. All of these aspects will then be encapsulated in the context of air fare structures and their distribution and yield management and their importance for airline operations.</p>	3(3-0-0)/4
AST218	<p><b>Introduction to Astronomy</b></p> <p>The purpose of this elective course is to answer questions concerning the history of astronomy, human space exploration, our Sun and Moon, planets, other stars, galaxies, and cosmology. Astronomy is a true science that studies the origin, structure, and fate of the whole Universe, beyond the Earth.</p>	3(3-0-0)/5
AFC412	<p><b>Airline Operation and Scheduling</b></p> <p>Constructing a profitable schedule is of utmost importance to an airline because its profitability is critically influenced by its flight offerings. We focus our attention on the steps of the airline schedule planning process involving schedule design and fleet assignment. Airline schedule design involves determining when and where to offer flights such that profits are maximized, and fleet assignment involves assigning aircraft types to flight legs to maximize revenue and minimize</p>	3(3-0-0)/5

CODE	NAME OF THE COURSE	CREDIT/ECTS
	operating cost.	
AFC413	<b>Air Cargo Management and Operations</b> This course introduces you to the international air cargo mode. You will learn about the economics underpinning air cargo operations, the regulatory environment as it relates to the international air cargo mode, the roles of the air cargo mode in global supply chains, the air cargo services offered to the public, the rationale for and the forms of strategic partnerships and alliances employed in the air cargo industry, and the strategies employed by the various key stakeholders. The course introduces you to the technical characteristics of aircraft as they relate to the air cargo mode, in particular, cargo capacity and air cargo revenue management, and ground and terminal handling requirements of air cargo.	3(3-0-0)/5
AFC411	<b>Crisis Management in Aviation</b> This course on crisis management offers students the basics in identifying, preventing, and controlling crisis situations in aviation. Crisis management basics, from preparation to training and compliance are discussed, as are various stages of a crisis, and the need to establish a crisis management team. Clearly identifying the roles and functions of each crisis management team member is essential for the ultimate success of contingency planning, which is also discussed. Students will receive extensive guidance on: Crisis management concepts, crisis management plans, crisis management teams and crisis management facilities.	3(3-0-0)/4
AVN404	<b>Human Resource Management</b> This course examines the role of the human resource professional as a strategic partner in managing today's organizations. Key functions such as recruitment, selection, development, appraisal, retention, compensation, and labor relations are examined. Implications of legal and global environments are appraised and current issues such as diversity training, sexual harassment policies, and rising benefit costs are analyzed. Best practices of employers of choice are considered.	3(3-0-0)/4
AVN411	<b>Airline Business Models</b> Understand what it takes to lead an airline to success through this dynamic learning environment! such as Business models product development, network analysis and planning, pricing and revenue management, Distribution and sales, aircraft evaluation financing and acquisition, marketing and branding. Aircraft scheduling	3(3-0-0)/4
MEC203	<b>Statics</b> The study of forces, couples and resultants of force systems; free-body diagrams; two- and three-dimensional equilibrium, and problems involving friction; and centroids, center of gravity, and distributed forces.	3(3-0-0)/4
MEC204	<b>Dynamics</b> Kinematics of particles and rigid bodies, Newton's laws of	3(3-0-0)/4

CODE	NAME OF THE COURSE	CREDIT/ECTS
	motion, and principles of work-energy and impulse-momentum for particles and rigid bodies.	