ISTANBUL OKAN UNIVERSITY
FACULTY of APPLIED SCIENCES
FLIGHT TRAINING DEPARTMENT

1st SEMESTER

Code	Name	C/E	T	A	Cr	ECTS
FT101	Introduction to Flight Training	C	2.0	0.0	2.0	4.0
Course Description						
The aim of this course is to prepare students for upper courses and to increase their knowledge level before flight training.						
Course Content						
How an Airplane Flies Flight Controls and their Functions Preflight Inspections - Check list Cockpit Instruments Cross Check Engine Start Taxi, Circling Maneuvers Wind, Turbulence Cross Country Flight Emergengy Procedures, Safe Flight						

Code	Name	C/E	T	A	Cr	ECTS
FT103	Introduction to Civil Aviation	C	3.0	0.0	3.0	4.0
Course Description						
The aim of this course is to teach the operation of institutions and organizations operating in civil aviation sector with a general perspective.						
Course Content						
Definition of Civil Aviation and Aviation History Aviation Industry Evaluation Development of Marketing Concept Aircraft Familiarization Aerodynamics of Flight Airports (design) Airport Operations						

Code	Name	C/E	T	A	Cr	ECTS
FT115	Applied Mathematics	C	3.0	0.0	3.0	6.0

Course Description

The aim of this course is to develop the student's geometric insight into the concepts of differentiation and integration, and applying these concepts to problem solving and "real world application".

Course Content

Differentiation of Algebraic and Transcendental Functions
Applications of the Derivative
Differentials,
Indefinite Integrals
Definite Integrals

Code	Name	C/E	T	A	Cr	ECTS
FT117	Aviation Mechanics	C	2.0	2.0	3.0	6.0

Course Description

The aim of this course is to understand the basic concepts and principles of mechanics to pilot candidates with a broad perspective and to increase comprehension with aircraft and flight based examples.

Course Content

Fundamental Concepts
Motion in 2-D
Newton's Laws of Motion
Work and Energy
Linear Momentum
Rotation of a Rigid Object
Angular Momentum

2nd SEMESTER

Code	Name	C/E	T	A	Cr	ECTS
FT122	Introduction to Aerodynamics	C	3.0	0.0	3.0	7.0
Course Description						
The aim of this course is to give students the basic aerodynamic knowledge for flight training.						
Course Content						
Aerodynamic Forces and Moments Physical Basic Properties of Air Flow Classifications and Definitions						

Code	Name	C/E	T	A	Cr	ECTS
FT124	Aviation Electrics	C	2.0	2.0	3.0	6.0
Course Description						
The aim of this course is to understand the basic concepts and principles of electrics to pilot candidates with a broad perspective and to increase comprehension with aircraft and flight based examples.						
Course Content						
Introduction: Basic Concepts Electric Fields Gauss's Law Electric Potential Capacitance and Dielectrics Current and Resistance Direct-Current Circuits Magnetic Fields Faraday's Law Inductance Alternating- Current Circuits Electromagnetic Waves						

Code	Name	C/E	T	A	Cr	ECTS
FT154	Civil Aviation Regulations	E	3.0	0.0	3.0	5.0

Course Description

The aim of the course is to teach national and international regulations for all activities in aviation industry.

Course Content

International Agreements
International Organizations
Liabilities
European Organizations
Publications
Air Traffic
Flight Information Service
Aircraft Worthiness
Pilot in Command
Licensing
Search and Rescue
Aircraft Accident and Incident Investigation

Code	Name	C/E	T	A	Cr	ECTS
FT156	Civil Aviation Accidents	E	3.0	0.0	3.0	5.0

Course Description

It is aimed that students recognize the factors that cause aircraft accidents, learn the requirements to prevent possible accidents, understand the behaviors in emergency and crisis situations, interpersonal communication skills, cockpit discipline, ability to handle and resolve problems.

Course Content

Flight and Aircraft Safety
Accident Investigations
Factors Causing Accidents
Human Factors
Runway Incursions
The Effect of Meteorology and Weather Conditions
Mid-air Collisions
The Impact of Mechanical Problems and Maintenance Practices
Accident Examples

3rd SEMESTER

Code	Name	C/E	T	A	Cr	ECTS
FT275	Modular Initial Theory of Flight	C	17.0	0.0	17.0	26.0
Course Description						
Aim of this course is to teach topics included in theoretical preparation for level of Private Pilot License (PPL) flights.						
Course Content						
Air Law Aircraft General Knowledge Flight Performance and Planning Human Performance and Limitations Meteorology General Navigation Operational Procedures Principles of Flight Communications						

Code	Name	C/E	T	A	Cr	ECTS
FT249	Aviation English I	C	2.0	0.0	2.0	4.0
Course Description						
The aim of course is to increase the English skills the student will use during flight operations.						
Course Content						
Introduction to Aviation English & ICAO Requirements Standard Phraseology Rules of Radiotelephony Preflight (Dispatch Phase, Crew Communications, Ground Movements) Departure Cruise Descent & Approach Landing Weather Aviation Specific Vocabulary Case Studies Group Presentations						

Code	Name	C/E	T	A	Cr	ECTS
FT295	Aviation Simulator Applications	E	0.0	1.0	0.0	0.0
Course Description						
This course aims to increase the student's predisposition to flight training and modern aircraft by using simulator applications which are an important tool in flight training.						
Course Content						
Synthetic Training						

4th SEMESTER

Code	Name	C/E	T	A	Cr	ECTS
FT276	Ground Training for Initial Flight	C	6.0	6.0	9.0	15.0
Course Description						
It is the technical training in which parts of the aircraft such as fuselage, wings, fixed surfaces, hydraulics, landing gear, wheels and brakes, control systems are taught on the aircraft.						
Course Content						
Fuselage Wings Fixed Surfaces Hydraulic Landing Gear Wheels and Brakes Control Systems						

Code	Name	C/E	T	A	Cr	ECTS
FT202	PPL Flight	C	1.0	6.0	4.0	10.0
Course Description						
The objective of the course is to provide training for the person who wants to receive Private Pilot License (PPL(A)), at international standards in order to perform a safe flight under visual flight conditions.						
Course Content						
Ground Operations Turns, Climb, Descent Stall Forced Landing Abort / Rejected Take-Off Traffic Pattern Touch-down / Go-Around Solo Flight Instrument Flight Maneuvers Local Navigation Training Cross Navigation Training Solo Navigation Flight						

Code	Name	C/E	T	A	Cr	ECTS
FT220	PIC Flight I	C	0.0	6.0	3.0	5.0
Course Description						
The aim of this course is to support and to improve the pilot candidate's skills on flight responsibility.						
Course Content						
Solo Flight						

5th SEMESTER

Code	Name	C/E	T	A	Cr	ECTS
FT351	Air Law II (010)	C	4.0	0.0	4.0	4.0
Course Description						
This course aims to comprehend the basic concepts and principles of air law with a broad perspective on pilot candidates and to increase comprehensibility with examples of flight operations.						
Course Content						
International Regulations Airworthiness Flight Nationality and Registration Signs Personel Licencing Flight Rules Altimeter Setting Procedures Radar transponder Operation Procedures Air Traffic Flight Information Services Aerodromes Search and Rescue Search and Rescue Services Accident Investigation National Regulations						

Code	Name	C/E	T	A	Cr	ECTS
FT353	Operational Procedures II (070)	C	3.0	0.0	3.0	2.0
Course Description						
This course aims to provide students with a broad perspective of basic concepts and principles regarding operational procedures.						
Course Content						
Operation ICAO Annex 6 Definitions General Requirements Certification Communication and Navigation Equipments Flight Crew Dangerous Goods Noise Fire and Smoke Engine Fire Microburst Wake Turbulence Forced Landing ETOPS						

Code	Name	C/E	T	A	Cr	ECTS
FT355	General Navigation II (061)	C	7.0	0.0	7.0	7.0

Course Description

This course aims to provide students with a broad perspective of basic concepts and principles regarding general navigation.

Course Content

Fundamentals of General Navigation
Time, heading and Distance
Courses, True North
Magnetism and Compass
Deviation, Variation, Magnetic North
Compass Swing
Charts
Dead Reckoning Navigation
Airspeeds (IAS, CAS, TAS, Mach Number)
Ground Speed
Flight Computer
In-flight Navigation
Navigation During Climb and Descent
Wind Speed and Direction

Code	Name	C/E	T	A	Cr	ECTS
FT337	Human Performance and Limits II (040)	C	5.0	0.0	5.0	4.0

Course Description

This course aims to provide students with a broad perspective of basic concepts and principles regarding flight human performance and limits.

Course Content

Human Factor in Aviation : Basic Concepts
Accident Statistics
Flight Safety Concepts
In-flight Incapacity
Basic Aviation Physiology
Environment
Motivation
Health and Hygiene
Reliability
Decision Making
Cockpit Management
Coordination
Human Behavior
Overloading and Loading Under Capacity

Code	Name	C/E	T	A	Cr	ECTS
FT339	PIC Flight II	C	0.0	6.0	3.0	5.0
Course Description						
The aim of this course is to support and to improve the pilot candidate's skills on flight responsibility.						
Course Content						
Solo Flight						

Code	Name	C/E	T	A	Cr	ECTS
FT343	VFR Communication (091)	C	1.0	0.0	1.0	1.0
Course Description						
This course aims to provide students with a broad perspective of basic concepts and principles regarding VFR communications.						
Course Content						
Definitions Abbreviations Common Q-code Groups General Operational Procedures Transmission Techniques Radiophony Call Signs Transferring Communications Test Procedures Read Back Flight Information Terms (VFR) Communication Failure Emergency Procedures Allocation and Publishing of VHF Frequencies						

Code	Name	C/E	T	A	Cr	ECTS
FT345	NR-Night Rating	C	0.0	2.0	1.0	2.0

Course Description

The objective is to improve the flight skills of the trainee under visual flight conditions (VFR) in night as a pilot in command (PIC).

Course Content

Ground Operations
Turns, Climb, Descent
Stall
Forced Landing
Abort / Rejected Take-Off
Traffic Pattern
Touch-down / Go-Around
Instrument Flight Maneuvers
Solo Flight

Code	Name	C/E	T	A	Cr	ECTS
FT347	Aviation English II	C	3.0	0.0	3.0	3.0

Course Description

The aim of course is to increase the English skills the student will use during flight operations.

Course Content

A Brief Look Back at Aviation English Basics
Introduction to Abnormal Operations & Emergency
Runway Incursion & Excursion
Getting Lost!
Pilot Incapacitation
Fire
Technical Issues
Bird Strike
Hijack
Medical Emergencies
Meteorology
Case Studies
Air Crash Investigation
General Review

6th SEMESTER

Code	Name	C/E	T	A	Cr	ECTS
FT342	Aircraft General Knowledge II (021)	C	5.0	0.0	5.0	6.0
Course Description						
The aim of this course is to teach the basic concepts and principles regarding transportation aircraft to pilot candidates with a broad perspective and to increase comprehension with aircraft and flight based examples.						
Course Content						
System Design, Loads, Stress, Maintenance Fuselage Hydraulics Landing Gears, Wheels, Tires and Brakes Wings, Empennage and Control Surfaces Pneumatics – Pressurization and Air Condition Systems Anti-ice and De-ice Systems Fuel Systems Electrics- Direct Current Electrics- Alternative Current Piston Engines Gas Turbine Engines Protection and Emergency Systems Oxygen Systems						

Code	Name	C/E	T	A	Cr	ECTS
FT344	Flight Instruments (022)	C	3.0	0.0	3.0	4.0
Course Description						
The aim of this course is to teach the basic concepts and principles regarding aircraft instruments to pilot candidates with a broad perspective and to increase comprehension with aircraft and flight based examples.						
Course Content						
Sensors and Flight Instruments Air data Paramenters Magnetism, Direct Reading Magnetic Compass and Flux Valve Gyroscopic Instruments INS - IRS Automatic Flight Control Systems Trim – Yaw Damper – Flight Envelope Protection Automatic Thrust Control System Communication Systems Flight Management System (FMS) Warning Systems – Proximity Systems Electronic Flight Instruments Recording Systems Computer						

Code	Name	C/E	T	A	Cr	ECTS
FT346	Meteorology II (050)	C	6.0	0.0	6.0	5.0

Course Description

This course aims to provide students with a broad perspective of basic concepts and principles regarding meteorology.

Course Content

The Structure of the Atmosphere
Layers in the Atmosphere
Temperature
Pressure
Air Density
ICAO Standard Atmosphere
Altimeter
Wind
Convergence and divergence effects
Turbulence
Jet Stream
Thermodynamics
Clouds and Fog
In-flight Dangers

Code	Name	C/E	T	A	Cr	ECTS
FT336	Radio Navigation II (062)	C	8.0	0.0	8.0	8.0

Course Description

This course aims to provide students with a broad perspective of basic concepts and principles regarding radio navigation.

Course Content

Basic Radio Propagation Theory
Electromagnetic Waves
Modulation Types
Ground D/F
NDB / ADF
VOR and Doppler VOR
DME
ILS
Microwave Landing System (MLS)
Terrain Radar
Airborne Weather Radar
SSR and Transponder
RNAV/FMS
GPS, GLONASS, GALILEO

Code	Name	C/E	T	A	Cr	ECTS
FT312	PIC Flight III	C	0.0	6.0	3.0	5.0
Course Description						
The aim of this course is to support and to improve the pilot candidate's skills on flight responsibility.						
Course Content						
Solo Flight						

7th SEMESTER

Code	Name	C/E	T	A	Cr	ECTS
FT431	Flight Safety II (SMS)	C	1.0	0.0	1.0	2.0
Course Description						
Pilot candidates are thought on flight safety, taking into account the characteristics of the training period to be flying at each stage of the flights and the characteristics of aerodrome.						
Course Content						
Basic Concepts of Safety in Aviation Error Management Basic Management Concepts System Concept Basic Building Blocks of SMS (SMS) Risk Management Securing Safety Promoting Safety Crisis management Planning and Organization						

Code	Name	C/E	T	A	Cr	ECTS
FT433	IR-Instrument Rating	C	0.0	2.0	1.0	2.0
Course Description						
The objective of the course is to train the pilots to reach to the proficiency level required to operate the aircrafts under instrument meteorology conditions and under instrument flight rules according to ICAO PANS-OPS document 8168.						
Course Content						
Single Engine Instrument Rating (SE-IR) Multi Engine Instrument Rating (ME-IR)						

Code	Name	C/E	T	A	Cr	ECTS
FT435	IR Training (+Simulator)	C	1.0	6.0	4.0	5.0
Course Description						
The aim of the course is to improve instrument flight training more effectively, permanently and safely using simulator.						
Course Content						
Synthetic Training						

Code	Name	C/E	T	A	Cr	ECTS
FT437	Flight Planning and Monitoring (033)	C	3.0	0.0	3.0	3.0

Course Description

This course aims to provide students with a broad perspective of basic concepts and principles regarding flight planning.

Course Content

VFR Flight Planning
Route, Airports, Altitude and Height in VFR Charts
Course and Distance in VFR Charts
Airport Charts and Guides
Communication and Radio Navigation Planning Data
Completing Navigation Plan
IFR Flight Planning
Airways and Routes
Instrument Departure (SID) / Instrument Approach (STAR) Routes
Instruments Approach Charts
Fuel Planning
Pre-flight Preparation
NOTAM Briefing
ICAO Flight Plan
Flight Monitoring

Code	Name	C/E	T	A	Cr	ECTS
FT439	Aircraft Performance (032)	C	4.0	0.0	4.0	4.0

Course Description

This course aims to provide students with a broad perspective of basic concepts and principles regarding flight performance.

Course Content

Performance Regulations
CS-23 and CS-25
Operational Regulations
General Performance Theory
Flight Phases
Definitions and Concepts
Factors Effecting Performance
Class-B Performance (SEP)
Take-off and Landing
Climb, Cruise and Descent
Class-B Performance (MEP)
Take-off and Landing
Climb, Cruise and Descent
Class-A Performance

Code	Name	C/E	T	A	Cr	ECTS
FT441	Mass and Balance (031)	C	3.0	0.0	3.0	3.0

Course Description

This course aims to provide students with a broad perspective of basic concepts and principles regarding flight mass and balance.

Course Content

Purpose of Mass and Balance
Mass Limitations
CG Limitations
Structural Limitations
Performance Limitations
Stability and Control Limitations
Loading
Maximum Take-off and Landing Mass
Allowable Traffic Mass and fuel Mass
Aeroplane's Mass and Balance Details
Mass and Balance Sheet
Fundamentals of CG Calculations
Determination of CG Location
Cargo Management

Code	Name	C/E	T	A	Cr	ECTS
FT443	Principles of Flight II (081)	C	5.0	0.0	5.0	6.0

Course Description

This course aims to provide students with a broad perspective of basic concepts and principles regarding principles of flight.

Course Content

Basic Concepts, Laws and Definitions
Aerodynamic Force and Moments
AIRFOIL
2-Dimensional Airflow
Aerodynamic Coefficients
3-Dimensional Airflow
Ground Effect
Stall / Flow Separation
Boundary Layer
Stability
Flight Mechanics
Limitations
High Speed Flight
Propellers

Code	Name	C/E	T	A	Cr	ECTS
FT445	PIC Flight IV	C	0.0	6.0	3.0	5.0
Course Description						
The aim of this course is to support and to improve the pilot candidate's skills on flight responsibility.						
Course Content						
Solo Flight						

8th SEMESTER

Code	Name	C/E	T	A	Cr	ECTS
FT432	ME/IR Flight	C	1.0	2.0	2.0	10.0
Course Description						
The objective is; to train single-engine – SE(A), Private – PPL(A) or Commercial – CPL(A) pilot license holders to multi-engine type rating on multi-engine aircrafts certified for single-pilot and to train Single-Engine Instrument Rating – IR(A) holder pilot who wants to receive multi-engine instrument training for multi-engine instrument flight.						
Course Content						
Ground Operations Turns, Climb, Descent Stall Forced Landing Abort / Rejected Take-Off Traffic Pattern Touch-down / Go-Around Solo Flight Instrument Flight Maneuvers Solo Flight Local Navigation Training Cross Navigation Training Solo Flight Solo Navigation Flight						

Code	Name	C/E	T	A	Cr	ECTS
FT434	CPL Flight	C	1.0	2.0	2.0	10.0
Course Description						
The aim of course is to increase the training and skills of the pilot with a PPL (A) license for general requests, and to train responsible pilots for commercial air transport to any single engine aircraft.						
Course Content						
Ground Operations Turns, Climb, Descent Stall Forced Landing Abort / Rejected Take-Off Traffic Pattern Touch-down / Go-Around Solo Flight Instrument Flight Maneuvers Solo Flight Local Navigation Training Cross Navigation Training Solo Flight Solo Navigation Flight						

Code	Name	C/E	T	A	Cr	ECTS
FT436	PIC Flight V	C	0.0	6.0	3.0	10.0
Course Description						
The aim of this course is to support and to improve the pilot candidate's skills on flight responsibility.						
Course Content						
Solo Flight						