**Curriculum Aviation and Air-Ticketing for Bachelor’s Degree**

**Curriculum Requirements**

*All bachelor's degrees require a minimum of 120 credit hours, inclusive of UD general education and major requirements and any elective courses.*

1. **Section/Department of Aviation**

The Flight Operations major includes a set of aviation core courses and aviation industry electives, as well as an aircraft track completion. The aviation core and foundation courses result in a minimum of 47 credit hours. Additionally, students must also complete the courses specific to the aircraft track and a minimum of nine credit hours of aviation industry electives. Completing the airplane track requires a minimum of 68 credits and the helicopter track requires a minimum of 66 credits.

**Required Aviation Core Courses (47-49 credits):**

* AVI 131: Basic Ground School (6)
* AVI 145: Safety and Ethics in Aviation (1)
* AVI 214: Aviation Meteorology (3)
* AVI 231: Ground School- Instrument (4)
* AVI 232: Ground School- Advanced (3)
* AVI 233: Air Transportation (3)
* AVI 349: Aviation Safety Management (3)
* AVI 401: Applied Aerodynamics (3)
* AVI 434: Human Factors (3)
* AVI 495: Aviation Senior Seminar (2)
* FLI 131: Flight Training I (3)
* FLI 132: Flight Training - Commercial Cross Country (2) **or** FLI 133: Flight Training - RW Turbine XC (4)
* FLI 231: Flight Training - Instrument (3)
* FLI 232: Flight Training - Commercial Maneuvers (2)
* CIS 162: Fundamentals of Excel (1)
* PRF 201: Career Development Strategies (1)
* \*MATH 150: Precalculus (4) OR Higher Level Mathematics **or** PHY 151: Gen Physics I and Lab (4)

**Students are required to take a minimum of 9 credits from the following Aviation Industry electives:**

* \*AVI 237: Helicopter Operations (3)
* AVI 234: ATC Procedures and the National Airspace System (3)
* AVI 241: Advanced Automation and Technology (3)
* AVI 322: Aviation Human Capital and Employee Management (3)
* \*AVI 329: UAS Operations (3)
* AVI 333: Aviation Security and Crisis Management (3)
* AVI 337: Airport Management (3)
* AVI 341: Aviation Law (3)
* AVI 344: Corporate Aviation (3)
* AVI 346: Airline Management (4)
* \*AVI 348: Fixed Base Operations (3)
* \*AVI 496: Aviation Colloquium (1-3)

\* Course **not** approved for FAA-LOA Reduced Aeronautical Experience requirements.

**Airplane Track (12 credits):**

* AVI 332: Advanced Aircraft Systems/CRJ (3)
* AVI 435: Ground School - Multi-Engine (2)
* AVI 447: Crew Resource Management and Advanced Systems (3)
* FLI 334: Flight Training - Complex/High-Performance Aircraft (2)
* FLI 435: Flight Training - Multi-Engine (2)

**Helicopter Track (10 credits):**

Students have the option of completing their instruction ratings by taking the following courses:

* AVI 430: Fundamentals of Instruction (2)
* AVI 431: CFI Aeronautical Knowledge (3)
* AVI 432: CFI Instrument Ground School (2)
* FLI 431: CFI Flight Training (2)
* FLI 432: CFI Flight Training (1)

**OR** students may take the following courses to complete the Turbine Rotor-Wing training:

* AVI 237: Helicopter Operations (3)
* AVI 306: Aircraft Systems and Components (3)
* FLI 133: Flight Training - RW Turbine Cross Country (4)

The Flight Operations degree airplane track is designed for a student to qualify for the Restricted-ATP. Students should consult with an aviation academic advisor to confirm they have the necessary FAA-LOA 60 credit hours. Students already having a private pilot certificate (without instrument rating) or transfer credits may need to choose additional FAA-LOA approved courses from the following electives to qualify for the Restricted-ATP. The FAA-LOA requires the instrument rating and commercial certificate must be earned (14 CFR 141) at the University of Dubuque.

**FAA-LOA Elective Courses include:**

* AVI 234: ATC Procedures and National Airspace (3)
* AVI 305: Avionics Systems (3)
* AVI 306: Aircraft Systems and Components (3)
* AVI 404: Air Traffic and Operations (3)
* AVI 430: Fundamentals of Instruction (2)
* AVI 431: CFI Aeronautical Knowledge (3)
* AVI 432: CFI Instrument Ground School (2)
* FLI 431: CFI Flight Training-Airplane (2)
* FLI 432: CFII Flight Training-Airplane (1)
* FLI 433: MEI Flight Training-Multi-Engine (1)
* PHY 151: General Physics I and Lab (4)

**The Flight Operations minor will result in a private pilot certificate with an instrument rating and consists of the following courses:**

* AVI 131: Basic Ground School (6)
* AVI 145: Safety and Ethics in Aviation (1)
* AVI 214: Aviation Meteorology (3)
* AVI 231: Ground School - Instrument (4)
* AVI 233: Air Transportation (3)
* FLI 131: Flight Training 1 (3)
* FLI 231: Flight Training Instrument (3)

**Aviation 1**

**Semester 1: Launching into Aviation**
This course provides the foundation for advanced exploration in flying, aerospace engineering, and unmanned aircraft systems. Students will learn about engineering practices, problem-solving, and the innovations and technological developments that have made today's aviation and aerospace industries possible.

Students will look at the problem-solving practices and innovative leaps that transformed space exploration from the unimaginable to the common in a single generation. Students will also gain a historical perspective, from the earliest flying machines to various modern aircraft.

**Semester 2: Exploring Aviation and Aerospace**
This core aerospace and aviation course provides students with a clear understanding of career opportunities (both civilian and military) in aviation and aerospace and the critical issues affecting the industry.

Students will explore modern innovations and develop their own innovative ideas to address real-world challenges facing the aviation industry. Students will observe real-world aviation operations in action via our local airports, air-traffic control facilities, and military bases.

**Aviation 2**

**Introduction to Flight**
Students will explore many of the different types of aircraft in use today, specifically learning how they are made and how they fly.  Students will study aircraft design and construction techniques, aircraft categorization, aerodynamic stability, aircraft controls, and flight characteristics.  Additionally, students will focus on career skills related to these topics.

**Semester 2: Aircraft Systems and Performance**
Students will examine operating systems which make crewed and un-crewed aircraft work, including powerplants, fuel systems, electrical, pitot-static, and vacuum systems. Throughout the course, they will learn about the flight instruments associated with each system and how to identify and troubleshoot common problems.

 **Aviation 3**

**Semester 1: The flying environment**
This course is foundational for both crewed and uncrewed aviation. It will prepare students to take either Federal Aviation Administration tests: the Private Pilot Knowledge Test or the Part 107 Remote Pilot Knowledge Test. Topics include preflight procedures, airspace, radio communications, aviation terminology, regulations, airport operations, aviation safety, weather, cockpit management, and emergency procedures.

**Semester 2: Flight Planning: Pilots**
Students will learn about pilot and aircraft qualifications, cross-country flight planning, weight and balance, performance and limitations, human factors, chart use, night operations, navigation systems, and aeronautical decision-making. Students will be provided the opportunity to participate in multiple practice examinations. At the end of this course, a school may choose to arrange for students to take the Federal Aviation Administration's Private Pilot written exam.

**Semester 2: UAS Operations: Drone Operators**
The UAS Operations course will cover many topics surrounding UAS missions, from mission planning to UAV performance to crew resource management. Students may take the Federal Aviation Administration's Part 107 Remote Pilot Knowledge Test upon completion of this course.

**Aviation 4**

**Semester 1: Pre-flight your career**
Students will examine advanced aviation topics and career options after preparing for the Private Pilot Knowledge Test or Part 107 Remote Pilot Test in the previous year. Instrument flight, commercial aviation, and advanced aircraft systems begin the semester. Looking into the future, students will then explore new horizons in the aerospace industry. What might aviation look like five, ten, or twenty years into the future? The focus then turns to business development opportunities in aviation. Finally, students will learn about and conduct different types of research in preparation for their capstone project in the second semester.

**Semester 2: The Capstone experience**
The capstone course is the culmination of the student learning experience. The students will work individually or in small groups to study and report on an aviation topic of their choosing. The goal of this capstone course is to allow students to demonstrate an understanding of a contemporary topic in aviation. The curriculum will include presentations and activities to help guide student research and project development.

**Aviation 5**

**Semester 1: Career preparation**
Through a combination of classroom instruction and real-world experience, this course will provide students with the knowledge and skills they need to succeed in today’s aviation workforce. Over the span of a semester, students will have the opportunity to learn and hone “soft” skills such as communication, professionalism, time management, collaboration, and more—as well as technical skills that will make them competitive in the job market. As students learn, they will be able to apply their knowledge in an internship or apprenticeship with an employer in the aviation industry, gaining valuable experience while taking an important first step toward their aviation career goals.

**2. Section/Department of Air-Ticketing**

Have an in-depth understanding of the different classes of flights and types of airline fares

Gain the solid base of knowledge you need to work in the travel industry in roles such as Airline Reservation Agent

Develop an excellent understanding of how airport computer reservation systems work

Learn the language of the airline industry, including coding and decoding, and IATA areas

Strengthen your knowledge of how to calculate complex airline fares

Understand the rules and guidelines in airline fare construction

Learn about the three types of GDS, what a PNR number is

**OTHER COURSES**

(Note that courses listed below are customized on request for Airlines or group of candidates)
1. Dangerous goods Handling
2. Aviation Security
3. Load Control/Ramp Safety
4. Radio Telephony
5. Crew Resource Management
6. Fire safety course
7. First Aid and Aviation Medicine
8. Safety Management System
9. Quality Management System
10. Human Factors

**DEGREE COURSES**

1. Computer Science
2. Management Information Technology
3. Mass Communication
4. International Relations and Diplomacy
5. Business Administration
6. Transport and Logistics Management
7. Hospitality and Tourism Management

**ADVANCED FLIGHT DISPATCHER/GROUND PILOT**

A flight dispatcher assists in planning flight paths, taking into account aircraft performance and loading, enroute winds, thunderstorm and turbulence forecasts, airspace restrictions, and airport conditions. Dispatchers also provide a flight following service and advise pilots if conditions change. They usually work in the operations centre of the airline. In some countries, the flight dispatcher shares legal responsibility with the commander of the aircraft.

This advanced stage of this course that leads to the issuance of a license.

Basic Dispatch is the initial stage. Advanced Flight Dispatch is a full-time course.
Duration is 3 months and resumption is always on a first come first served basis
Candidates must be above 21 years of age and need a minimum of O’level results to enroll, (That is WAEC OR NECO or NABTEB).
Higher qualifications can also be used to enroll.
Students proceeds to various airlines for their on job training after the course.
Resumption is in batches and always on a first-come-first-served basis.

**AIR TICKETING/RESERVATION (ATR)**

Students in this department will have the opportunity to work at the airport, airline, travel agencies, and ministry of aviation, embassies, and other aviation-related organizations. You will learn the basics of making reservations and issuance of tickets to the traveling public, you will be impacted with the knowledge of educating the traveling public about the procedure of travel. Students will learn core aviation courses relating to the department and also borrow courses in another departments.

**AVIATION AND AIRPORT MANAGEMENT**

It’s an Aviation course for those who wish to work with an Airline or at the Airport within and outside the country.
The course also comes with specialized training on Dangerous Goods
Students will also be issued Recommendation Letters to aid their Industrial Attachment which can lead to permanent jobs.

**BASIC FLIGHT DISPATCHER/GROUND PILOT**

A flight dispatcher assists in planning flight paths, taking into account aircraft performance and loading, en route winds, thunderstorm and turbulence forecasts, airspace restrictions, and airport conditions. Dispatchers also provide a flight following service and advise pilots if conditions change. They usually work in the operations centre of the airline. In some countries, the flight dispatcher shares legal responsibility with the commander of the aircraft.

There is an advanced stage of this course that leads to the issuance of a license.

Basic Flight Dispatch is a full-time course. Duration is 2 months and resumption is always on a first come first served basis
Candidates must be above 21 years of age and need a minimum of O’level results to enroll, (That is WAEC OR NECO OR NABTEB OR EQUIVALENT OUTSIDE NIGERIA).
Higher qualifications can also be used to enroll.
Students have an option of proceeding to Advanced Flight Immediately after Basic or at a future date.

**CUSTOMER SERVICE MANAGEMENT**

Students in this department will have the opportunity to work in various organizations, within and outside the aviation industry. Customer service is more than serving people – it is about improving their experiences with high-quality assistance that emphasizes good communication.
Every organization needs the service of a Customer Service Personnel.

**OTHER COURSES**

(Note that courses listed below are customized on request for Airlines or group of candidates)
1. Dangerous goods Handling
2. Aviation Security
3. Load Control/Ramp Safety
4. Radio Telephony
5. Crew Resource Management
6. Fire safety course
7. First Aid and Aviation Medicine
8. Safety Management System
9. Quality Management System
10. Human Factors

Students in this department will have the opportunity to work onboard various Airlines as Air Host and Hostess. Their duty is to take care of passengers throughout the flight/journey.

Students in this department will be exposed to Ditching/Sea practical, Fire Fighting, First Aid training, visit the Airport/Aircraft familiarization among others.

Cabin crew (Flight Attendant) is a full-time course, and the tuition is #300,000 which is paid in instalment.
Duration is 2 months and resumption are always on a first come first served basis
Candidates must be above 18 years of age and need a minimum of O`level result to enroll (That is WAEC OR NECO).

**HELICOPTER LANDING OFFICER (HLO)**

The Helicopter Landing Officer, also known as **HLO** is the most vital part of the operating team for **offshore helidecks**. (A **helideck** is a purpose-built helicopter landing area, usually on a ship or offshore oil/gas installation.) Over the years the offshore oil exploration, production business, and very busy individuals have relied upon helicopters as the main method of transferring personnel to and from their workplace.

Students who study this course get a certificate that enables them to work with any helicopter company or airline.

**HOTEL MANAGEMENT**

Students in this department will have the opportunity to work in standard hotels and some other hospitality organizations. Students will learn core hospitality courses and an introduction to the hospitality/tourism industry. You will also learn to use the Reservation system which is used in making hotel reservations worldwide.

**TRAVEL AGENCY MANAGEMENT (TAM)**

Students in this department will have the opportunity to work at the airport, airline, travel agencies and
also set up their own Travel Organisations. You will learn the basics of making reservations and issuance
of tickets to the traveling public, You will be impacted with the knowledge of educating the traveling
public about the procedure of travel. Students will learn Computer Reservation/GDS
(Sabre, Amadeus, or Galileo).
The school fixes students to various travel organizations for Optional industrial attachment which could
lead to permanent employment.