**GAU, School of Aviation, Civil Aviation and Cabin Services**

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| **Course Unit Title** | | | | General Meteorology | | | | |
| **Course Unit Code** | | | | CACS209 | | | | |
| **Type of Course Unit** | | | | Compulsory, Civil Aviation and Cabin Services Students | | | | |
| **Level of Course Unit** | | | | 2rd Year | | | | |
| **National Credits** | | | | 2 | | | | |
| **Number of ECTS Credits Allocated** | | | | 3 ECTS | | | | |
| **Theoretical (hour/week)** | | | | 2 | | | | |
| **Practice (hour/week)** | | | | - | | | | |
| **Laboratory (hour/week)** | | | | - | | | | |
| **Year of Study** | | | | 2 | | | | |
| **Semester when the course unit is delivered** | | | | 3 | | | | |
| **Course Coordinator** | | | |  | | | | |
| **Name of Lecturer (s)** | | | |  | | | | |
| **Name of Assistant (s)** | | | |  | | | | |
| **Mode of Delivery** | | | | Face to Face | | | | |
| **Language of Instruction** | | | | English | | | | |
| **Prerequisites and co-requisites** | | | | - | | | | |
| **Recommended Optional Programme Components** | | | | - | | | | |
| **Objectives of the Course:** | | | | | | | | |
| * Teaching the basic aviation meteorology. * Teaching the Motion of the Earth * Teaching basic knowledge of Atmospheric Aerosols, Clouds and Turbulence | | | | | | | | |
| **Course Description** | | | | | | | |  |
| This course provides students to learn on basic concepts of Meteorology science, the physical processes of Meteorological events and importance of Aviation. Topics covered on the course include: Definition of Meteorology, the structure and characteristics of the atmosphere, the gas laws, global circulation, weather systems and effects to Aviation. | | | | | | | | |
| **Course Contents** | | | | | | | | |
| Week |  | | | | | | | Exams |
| 1 | Introduction to Aviation Meteorology | | | | | | |  |
| 2 | Introduction to Meteorology: Definition of Meteorology, Categories and Brief History of Meteorology, Definition of Weather, Climate and Forecasting. | | | | | | |  |
| 3 | Definition of The Atmosphere, Composition, Impurities, Structure, Stratification. | | | | | | |  |
| 4 | Definition of Atmospheric motion, The Pressure Gradient Force, The Coriolis Force, Geostrophic Balance, Acceleration and Friction, Global Circulation. | | | | | | |  |
| 5 | Air Masses, types and Modification process. | | | | | | |  |
| 6 | Altimetry, Altitude and Flight | | | | | | |  |
| 7 | Tutorial and Revision Class | | | | | | |  |
| 8 | Midterm Exam | | | | | | | Midterm |
| 9 | Winds and Currents, wind patterns. | | | | | | |  |
| 10 | Wind maps and Isobars | | | | | | |  |
| 11 | Turbulence, types of turbulence and importance of flight. | | | | | | |  |
| 12 | Clouds, types of clouds and Precipitation. | | | | | | |  |
| 13 | AI in weather forecasting | | | | | | |  |
| 14 | Exercise and Tutorial Class | | | | | | |  |
| 15 | Final Exam | | | | | | | Final |
| **Recommended Sources** | | | | | | | | |
| **Textbook:** Navale Pandharinath, “Aviation Meteorology”, 1th edition, BS Publications, 2009.  **Supplementary Material(s):** | | | | | | | | |
| **Assessment** | | | | | | | | |
| Attendance | | 5% |  | | | | | |
| Assignments | | 0% |  | | | | | |
| Project-Seminar | | 5% |  | | | | | |
| Midterm Exam | | 30% | Written | | | | | |
| Quizzes | | 5% |  | | | | | |
| Final Exam | | 50% | Written | | | | | |
| Total | | 100% |  | | | | | |
| **ECTS Allocated Based on the Student Workload** | | | | | | | | |
| Activities | | | | | Number | Duration (hour) | Total Workload (hour) | |
| Hours per week (Theoretical) | | | | | 15 | 2 | 30 | |
| Presenting of observations and tutorials as report | | | | | 5 | 3 | 15 | |
| Preparation of the homework | | | | | 5 | 3 | 15 | |
| Mid Term | | | | | 1 | 11 | 11 | |
| Supervision | | | | | 1 | 14 | 14 | |
| Final Exam | | | | | 1 | 11 | 11 | |
| Total Workload | | | | | | | 96 | |
| Total Workload/30 (h) | | | | | | | 3.2 | |
| ECTS Credit of the Course | | | | | | | 3 | |