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

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| **Course Unit Title** | Aviation 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** | 0 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 and E-learning activities |
| **Language of Instruction**  | English |
| **Prerequisities and co-requisities**  | - |
| **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
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| **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 |  | Exam**s** |
| 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. | Quiz #1 |
| 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. | Quiz #2 |
| 13 | Seminars by students |  |
| 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 | 5% |  |
| 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 | 3 | 45 |
| Presenting of observations and tutorials as report | 5 | 5 | 25 |
| Preparation of the homeworks | 5 | 5 | 25 |
| Quizzes | 2 | 11 | 22 |
| Supervision  | 1 | 17 | 17 |
| Final Exam | 1 | 22 | 22 |
| Total Workload  | 156 |
| Total Workload/30 (h) | 5.2 |
| ECTS Credit of the Course | 5 |