GAU, School of Aviation, Aviation Management

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| **Course Unit Title** | | Aviation Meteorology | |
| **Course Unit Code** | | AVM303 | |
| **Type of Course Unit** | | Compulsory, Aviation Management and Cabin Services  Students | |
| **Level of Course Unit** | | 3rd Year BSc | |
| **National Credits** | | 3 | |
| **Number of ECTS Credits Allocated** | | 5 ECTS | |
| **Theoretical (hour/week)** | | 3 | |
| **Practice (hour/week)** | | - | |
| **Laboratory (hour/week)** | | - | |
| **Year of Study** | | 3 | |
| **Semester when the course unit is delivered** | | 5 | |
| **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 Program Components** | | Basic background of Fundamentals of Aviation | |
| **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 | Decoding of METARs & TAFs | |  |
| 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 | Precipitation | |  |
| 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 homework | | | 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 | | | | |