| Program and Degree: **BSc in Aerospace Engineering** | |
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| **Course Description** | |
| **Course Title** | **Aircraft Instrumentation and Measurement Workshop** |
| **Prerequisites** | None |
| **The course aims** | Students' acquaintance with different measuring Instruments, sensors and gages and indicators in aircrafts and other flying vehicles. |
| **Contents** | 1- An introduction to Measurement systems and sensors for automatic control (sensor selection, error and calibration, physical variable transducer, signal transmitter and indicator)<br>2- Navigation instruments: Air speed indicator, Vertical speed indicator, Altimeter, Pitot- static system, compass, Accelerometer, Global Navigation Systems.<br>3- Gyroscopic Attitude sensors, Free gyro, Rate Gyro, Vertical Gyro, Directional Gyro, Gyrocompass.<br>4- Aircraft Engine parameters Instruments: pressure gages, tachometer, thermometer, Flow meter.<br>5- Warning systems: Fire alarm systems, cabin pressure.<br>6- State Indicators for Aircraft Systems and control surfaces: Flaps, Elevator, Rudder, Ailerons, Landing Gear,. .<br>7- Aircraft geometry measurements, Trim considerations, weight distribution, airplane drawings. |
| **Duration** | **1 Semester (16 weeks)** |
| **Course Hours** | **4 hours/week** |
| **Course Type** | **Required** |