

Module (Course Syllabus) Catalogue 2022-2023

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|--------------------------|---|--------------------------|------------------------------|
| College/ Institute | Erbil Technical Engineering College | | |
| Department | Mechanical and Energy Engineering | | |
| Module Name | Engineering measurements | | |
| Module Code | ENM203 | <input type="checkbox"/> | <input type="checkbox"/> |
| Degree | Technical Diploma | <input type="checkbox"/> | Bachelor |
| | High Diploma | Master | PhD <input type="checkbox"/> |
| Semester | Third Semester | | |
| Qualification | PhD Degree | | |
| Scientific Title | Lecturer | | |
| ECTS (Credits) | 6 | | |
| Module type | Prerequisite | Core | + Assist. |
| Weekly hours | 4 | | |
| Weekly hours (Theory) | (2)hr Class | (67)Total hrs Workload | |
| Weekly hours (Practical) | (2)hr Class | (97)Total hrs Workload | |
| Number of Weeks | 20 | | |
| Lecturer (Theory) | Hindren Ali Saber | | |
| E-Mail & Mobile NO. | Hindren.saber@epu.edu.iq 07507430728 | | |
| Lecturer (Practical) | Didar Raouf Mohammed | | |
| E-Mail & Mobile NO. | deedar.mohammed@epu.edu.iq 07507664003 | | |
| Websites | | | |

Course Book

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|------------------------------------|---|-----------------------|-----------------|----------------------------------|--|
| Course Description | This course will help the student to understand the basic principles of Measurements in air-conditioning systems design, types of Measurement systems. This course will also explain the principles of energy conservation and heat recovery systems in the range of measurements operations. | | | | |
| Course objectives | Understanding the main principle of Measurements for air conditioning system and Thermal and Applied Mechanics Measurements. | | | | |
| Student's obligation | The most important obligation in this subject is that student have to attend a class and should be in the class before the lecturer came to class otherwise that student is absent in this lesson. It will effect on their marks. | | | | |
| Required Learning Materials | | | | | |
| Evaluation | Task | Weight (Marks) | Due Week | Relevant Learning Outcome | |
| | Paper Review | 0 | | | |
| | Assignments | Homework | 0 | | |
| | | Class Activity | 2 | | |
| | | Report | 5 | | |
| | | Seminar | 3 | | |
| | | Essay | 0 | | |
| | | Project | 5 | | |
| | Quiz | 5 | | | |
| | Lab. | 10 | | | |
| | Midterm Exam | 30 | | | |

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|---|---|-------------|-------------------------|--|
| | Final Exam | 40 | | |
| | Total | 100 | | |
| Specific learning outcome: | This course will help the student to understand the basic principles of the working principles of mechanical measurements. Measurements process of working in air-conditioning systems design, types of Mechanical Measurements which can be used in air conditioning systems. This course will also explain the principles of Temperature, pressure and fluid flow properties. | | | |
| Course References: | - Mechanical Measurements - www.Google.com Mechanical Measurements. | | | |
| Course topics (Theory) | | Week | Learning Outcome | |
| 1) Principles of Measurements 2) Measurements in Control engineering 3) Position Sensor 4) Temperature Measurements 5) Pressure Measurements 6) Pressure Measurements 7) Flow Measurements 8) Force Measurements 9) Humidity Measurements 10) Velocity Measurements 11) Velocity Measurements 12) Liquid level Measurements 13) Displacement Measurements 14) Displacement Measurements 15) Quantity Measurements 16) Weight Measurements, Acceleration Measurements | | | | |
| Practical Topics | | Week | Learning Outcome | |
| Bourdon Gauge disassembly | | 1-4 | | |
| Production Measurements | | 4-10 | | |
| Temperature measurements | | 10-16 | | |

Questions Example Design

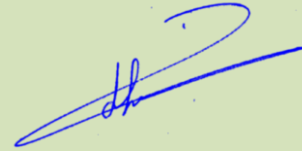
Q1/What are the Potentiometer on Measurements?

Q2/ Define the following Measurements: 1) Thermistor 2) bourdon gauge 3) Strain Gauge

Extra notes:

External Evaluator

I would like to emphasize that this coursebook is covered all the important subjects that are necessary for the second-year mechanical engineering students. The syllabus is well organised and up to date.



Dr. Dlair O. Ramadan