The University of Jordan
School of Engineering
Department of Mechatronics Engineering
2nd Semester – A.Y. 2024/2025

Course:	**Transducers and Sensors lab** – 0908473 (1 Cr. – Required Course) **Lecture Time: Tue (12:30-15:30) and Thu (12:30-15:30)**
Instructor:	Eng. Samer Z. Sartawi. *Office:* MX,. *Email*: samer.salah@ju.edu.jo *Office Hours:* Sun, Tue & Thu: 11:30 AM – 12:30 PM.
Course Website:	**https://elearning.ju.edu.jo/**
Catalog Data:	hands-on experience on the following measurement systems: displacement, strain, force, toque, pressure, flow, acceleration, vibration, temperature, and humidity measurement. hands-on experience on various measurement devices such as signals display equipment and function generators. the selection of signal conditioning elements.
Prerequisites by Course:	Transducers and Sensors – 0908472.
Prerequisites By Topic:	The student should have the basic knowledge of sensors types and characteristics and how to design signal conditioning circuits.
Textbook: References:	Experiment Sheets. Mechanical Measurements", Thomas Beckwith, Roy Marangoni, John Lienhard, Pearson Education, Pearson International Edition, Sixth Edition.
Schedule & Duration:	16 Weeks, 8 Labs (3 hours each) plus exams.
Minimum Student Material:	Textbook, class handouts, and Matlab Software.
Minimum College Facilities:	Classroom with whiteboard and projection display facilities, lab equipment.
Course Objectives:	The objective of this laboratory is to introduce students to the different types of sensors and transducers and their readout circuits. Also, to teach them the principles of measurement and instrumentations.

Course Learning Outcomes and Relation to ABET Student Outcomes:

Upon successful completion of this course, a student should:

1. Conduct experiment and analyze and interpret the results.
2. Learn sensors and transducers types and understand their carachteristics.
3. Build suitable signal conditioning circuit for various transducers.
4. Write complete technical reports.

ABET SO:

7) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Ground Rules:

- **Make up Examinations**

There will be no make up exams for any exam that will be taken during the course. exceptions to this rule is restricted only to the following cases:-

1. death of only first order relatives (father, mother, sister, or brother).
2. hospital entry (in-patient) during the time of the examination.

Any other cases will be given zero mark in the corresponding exam.

- **Special Notes**

Seating plan will be as given in the attendance sheet.

- **Attendance is required** and strictly enforced. To that end, attendance will be taken every lecture; Absence of more than *2 labs* will result in the expulsion of the student from the course.

Assessments:

Exams, Reports and Project.

Grading policy:

Report		20 %
Project		10 **%**
Midterm Exam		30 **%**
Final Exam		40 **%**
	Total	**100%**

Last Updated:

Feb 2025