

**UNIVERSITY OF KENTUCKY
DEPARTMENT OF MECHANICAL ENGINEERING
COURSE SYLLABUS**

COURSE INFORMATION

Course Title: ME 310 - Engineering Experimentation

Semester: Fall 2023

Course Description: An introductory course in measurement and instrumentation emphasizing measurement errors, elementary statistics, uncertainty analysis, sensors, time and frequency response of instrumentation components, signal conditioning circuitry, and digital data acquisition. Applications include the measurement of strain, pressure, temperature, flow, force, torque, and vibration.

Prerequisites: Engineering Standing, ME 330, EE 305, ME 340 (concurrent)

Lecture Location: Kastle Hall Rm 213

Lecture Time: Tuesday and Thursday, 11:00am – 12:15pm

Lab Location: 302 RGAN

Lab Times:	Section 002	Tuesday	2:00 pm – 4:50 pm
	Section 003	Wednesday	2:00 pm – 4:50 pm
	Section 004	Friday	9:00 am – 11:50 am
	Section 005	Wednesday	9:00 am – 11:50 am

INSTRUCTOR INFORMATION

Instructor: H. A. Poonawala, 113G Grehan, hasan.poonawala@uky.edu, (859) 323-7436

Instructor Office Hours: 3-4pm on Tuesdays and Thursdays.

Lab Instructor: Andy Kerr, 304 RGAN, andy.kerr@uky.edu, (859) 218-0659

COURSE MANAGEMENT AND MATERIALS

Canvas: Assignments and grades will be posted on Canvas

Required Course Textbook: Figliola and Beasley, *Theory and Design for Mechanical Measurements*, 6th Ed.

Lab Manuals: Lab manuals will be provided in the lab

COURSE POLICIES

Lecture Attendance: Lecture attendance is not required, but strongly encouraged. Students are responsible for all material covered in the lectures.

Quizzes: There will be between 7-9 announced quizzes, which are based on assigned homework problems. The homework problems and their solutions will be posted on Canvas. Homework is not graded. Makeup quizzes will only be given for an excused absence. All makeup quizzes will be given the week before finals

Exams: There will be three in-class exams (Exam 1, Exam 2, and Final Exam), which are closed book and closed notes. The final exam is cumulative. Makeup exams will only be given for an excused absence. All makeups for Exam 1 and Exam 2 will be given the week before finals.

Lab Reports: There are 9 lab reports, which are based on the experiments conducted in lab. Lab reports must be uploaded to Canvas as a text-searchable pdf file.

Lab Report Deadline: Lab reports are due before 11:59:00pm EST on the 8th calendar day after the lab experiment is conducted. Submission deadlines are:

Section 002	Wednesday (before 11:59:00pm EST)
Section 003	Thursday (before 11:59:00pm EST)
Section 004	Saturday (before 11:59:00pm EST)
Section 005	Thursday (before 11:59:00pm EST)

After uploading your report, you should confirm that the file is the correct file and does not have any uploading errors. Any report that is submitted after the deadline is a late submission.

One Late Lab Report Policy: One late lab report will be accepted without penalty. Late lab reports are due before 11:59:00pm EST on the 9th calendar day after the lab experiment is conducted. Late lab reports must be uploaded to Canvas as a text-searchable pdf file. No more than one late lab report will be accepted.

Canvas Problems: If a lab report cannot be uploaded to Canvas because of technical problems, then the report must be emailed to the lab instructor (andy.kerr@uky.edu) before the report deadline. The report must be received before the deadline (per the receipt time indicated by lab instructor's email).

Mandatory Lab Introduction: The Lab Introduction (8/29-9/1) is mandatory. The Lab Introduction covers lab rules and policies, equipment and software tutorials, and safety guidelines. The penalty for missing the Lab Introduction is 5 points off the overall numerical grade. There is no late admittance to the Lab Introduction.

Lab Overview and Policies Document: A *Lab Overview and Policies* document will be provided during the Lab Introduction and made available on Canvas. This document covers lab-specific policies and provides details on penalties that can be applied for policy violations, such as arriving late to lab, incomplete or missing lab work, and failure to return equipment to its original state.

Laboratory Attendance: Laboratory attendance and participation is required to submit a lab report. Points will be deducted from the lab report grade for arriving late or failure to complete in-lab assignments. Details on point deductions are included in the *Lab Overview and Policies* document. Makeup labs will only be given for an excused absence. All makeup labs will be conducted the week before finals.

In-Lab Excel Data File Submission: Experimental data taken during lab must be recorded in an Excel spreadsheet. In addition, the lab manual includes instructions on required in-lab data analysis that should be performed during lab. Your Excel data file is due before you leave the lab. Instructions on submitting the Excel data file are included in *Lab Overview and Policies*. If you leave the lab without submitting your Excel data file (with nonzero file size), then you cannot submit a lab report and will receive a 0 for the report.

Restrictions on Preparing Lab Reports: Lab reports must be an individual effort. Students are allowed to discuss reports with other students. However, the writing, figures, and graphics must be the student's own work. All writing must be the student's own work. Students are not allowed to look at anyone else's lab report, either from this semester or from a previous semester. Students must use only their own data from lab experiments to prepare their report. A student may not present someone else's data in their report. A student may not share their report with another student.

Penalties for Violating Lab Report Restrictions: The first-offense penalty for violating any restriction on preparing lab reports is a grade of 0 on the lab report and a 1-letter-grade reduction of the final letter grade. The second-offense penalty is a final letter grade of E for the course. All violations will be reported to the Ombud.

Excused Absence: Procedures regarding excused absences are detailed in Section 5 of the University Senate Rules. Students are entitled to an excused absence for: serious illness, illness or death of a family member, university-related trips and activities, major religious holidays, and interviews for graduate/professional school or full-time employment post-graduation. The instructor must be notified in advance of an excused absence whenever possible. For the case of severe medical issues, Tier 2 or Tier 3 documentation must be provided to the instructor within one week of the absence. In addition, all medical excuses must be verifiable. COVID-19 related absences should be confirmed by documentation from the UK Health Corps (see <https://www.uky.edu/coronavirus/reinvented-operations/health-corps>).

Numerical Grade:	Lab	30%	
	Quizzes	10%	
	Exam 1	17.5%	Tuesday, Oct 3
	Exam 2	17.5%	Thursday, Nov 30
	Final Exam	25%	Tuesday, Dec 12 at 10:30 am

Letter Grades: The following 10-point scale is used for assigning letter grades based on the numerical grade:

$$A \geq 90, 89 \geq B \geq 80, 79 \geq C \geq 70, 69 \geq D \geq 60, E \leq 59$$

Regrade Policy: A request to regrade an assignment (quiz, exam, or lab report) must be submitted within 2 weeks of the day the assignment is returned

Academic Misconduct: Instances of plagiarism and cheating will be handled according to Section 6 of the University Senate Rules (see <https://www.uky.edu/universitysenate/ao>)

UNIVERSITY POLICIES

Academic Policy Statements: <https://www.uky.edu/universitysenate/acadpolicy>

Rules Regarding Academic Offenses: <https://www.uky.edu/universitysenate/ao>

Resources Available to Students: <https://www.uky.edu/universitysenate/student-resources>

Policy on Diversity, Equity, and Inclusion: <https://www.uky.edu/universitysenate/syllabus-dei>