



VIBRATIONS & CNTRLS LAB ME-4501

Spring 2019 Section 01

Catalog COURSE DESCRIPTION

(1-credit) This is a laboratory course designed to complement the vibrations and controls topics also covered in lecture courses. Experimental study of one, two, and more degrees of freedom vibration, including effects of damping, free and forced vibrations, translational and torsional vibrations. Implementation of proportional, integral, and/or derivative control of dynamic systems.

🕒 Meeting Times

Lab

Wed

12:30 PM to 3:15 PM, Q-217

👤 Contact Information

Instructor: Dr. Muhammad Salman

Email: msalman1@kennesaw.edu (mailto:msalman1@kennesaw.edu)

Office Hours

MRF

G-122 or Q-217

<u>Monday</u>	<u>Tuesday</u>		
<u>11:30 am - 2:00 pm</u>	<u>12:30 pm - 2:00 pm</u>		
Q-217 or G-122 by appointment or Walk in			

📖 Description

CO-Requisite:	<i>ENGR 3125 - Machine Dynamics & Vibrations, ME 3501 - Dynamic Systems & Control Theory</i>
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📊 Outcomes

Upon the completion of this course, you should be able to:

1. Have an ability to design and conduct experiments, as well as to analyze and interpret data.
2. Assess the validity of the experimental results and compare with theoretical results when possible.
3. Have an ability to communicate effectively by writing and submitting a laboratory report.
4. Calibrate a transducer and understand the signal path and relationship to the physical variable

📚 Materials

Dynamics and Vibrations, An introduction,

Author: Magd Wahab
Publisher: Wiley 2008
ISBN: 978-0-470-72300-5

Laboratory notebook with numbered pages. Either traditional bounded lab notebook or OK to use binder and number pages and include table of contents and thus update with lab assignments.

Reference textbook in System Dynamics and/or Control Theory is not required, but is a good reference for controls assignments.

Deliverables

COURSE OUTCOME MEASURES and ASSESSMENT

Measures and assessment of the outcomes will be made by:

- Project
- Lab Reports
- Lab notebook and other assignments.

✓ Evaluation

Criteria

Grading:		Lab Reports and assignments, including lab notebook.			
Nominal Grading Scale:	90-100 A	80-89 B	70-79 C	60-69 D	0-59 F

⚙ Course Policies

LABS

- Lab attendance is of paramount importance in this class. Due to high enrollment, it is difficult to make-up a lab. It is the student's responsibility to contact the Professor *prior* to the lab if s/he cannot attend the lab at the regular scheduled time. If you have a legitimate reason to miss 1 lab, attend a different lab section during the same week if possible. See the instructor(s) ahead of time for their approval if that is your plan.
- Use lab notebooks to document your laboratory work.
- The lab assignment and/or report are due 1 week after the lab session (unless otherwise declared by the Professor).
- Some labs may include assignments with calculations and written responses. Solutions must follow procedures and formatting that will be described below. Photocopies out of your lab notebooks may be allowed if sufficiently neat.
- Other labs will require a technical memo or professional report. Lab reports should be typed up using formatting that will be specified by the professor.
- Lab reports, when due, are to be turned in at the beginning of class on the due date for full credit. Late submissions will cause penalty.

Institutional Policies

Federal, BOR, & KSU Course Syllabus Policies

Information contained in the links below constitutes the Federal, BOR, and KSU course syllabus policies and procedures and may be referenced by faculty members in their course syllabi. These policies are updated on the Academic Affairs Website annually.

Academic Affairs - Federal, BOR, & KSU Policies

(http://curriculum.kennesaw.edu/resources/federal_bor_ksu_student_policies.php)

Academic Affairs - KSU Student Resources for Syllabus

(http://curriculum.kennesaw.edu/resources/ksu_student_resources_for_course_syllabus.php)

Note to Faculty: The KSU faculty handbook requires the Academic Integrity Policy in the course syllabus.

Note to Faculty and Students: The Office of the Provost will work to keep the policies and links in this document as accurate as possible.

Academic Integrity Statement

Every KSU student is responsible for upholding the provisions of the Student Code of Conduct, as published in the Undergraduate and Graduate Catalogs. Section 5c of the Student Code of Conduct addresses the university's policy on academic honesty, including provisions regarding plagiarism and cheating, unauthorized access to university materials, misrepresentation/falsification of university records or academic work, malicious removal, retention, or destruction of library materials, malicious/intentional misuse of computer facilities and/or services, and misuse of student identification cards. Incidents of alleged academic misconduct will be handled through the established procedures of the Department of Student Conduct and Academic Integrity (SCAI), which includes either an "informal" resolution by a faculty member, resulting in a grade adjustment, or a formal hearing procedure, which may subject a student to the Code of Conduct's minimum one semester suspension requirement. See also KSU Student Code of Conduct (<https://web.kennesaw.edu/scai/content/ksu-student-code-conduct>).

Electronic Communication

The University provides all KSU students with an "official" email account with the address "students.kennesaw.edu" or "kennesaw.view.usg.edu" (in D2L). As a result of federal laws protecting educational information and other data, this is the sole email account you should use to communicate with your instructor or other University officials.

☰ Additional Items

📅 Schedule

When	Topic	Notes
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