

ME 4201/02 – Senior Design 1 – FALL 2019

Instructor

Laura A. Ruhala, PhD

E-mail: lruhala@kennesaw.edu

Office Phone: 470-578-7315

Cell Phone: 812-589-2982

(If you need to text or call me, I prefer you use my cell phone)

Office Location: Q 319

Office Hours:

MW 5:30-6:30pm

T 2:00-4:30pm

TR 6:40-7:00pm



**KENNESAW STATE
UNIVERSITY**

SOUTHERN POLYTECHNIC
COLLEGE OF ENGINEERING AND
ENGINEERING TECHNOLOGY
Department of Mechanical Engineering

Course Description

Catalog Description (Credit Hours: 1-0-1)

1 x 50 minute lecture (1 credits). Part 1 of a two-course senior design capstone project for mechanical engineering. Students will form teams, define design projects, and write a proposal. Also begin preparation for FE Exam. Note that this course should be taken right before you take Senior Design II, which should be taken during your last semester.

Prerequisites

ME 3201 - Product Realization

ME 3440 - Heat Transfer

ME 4250 - Computer-Aided Engineering

(With permission of the professor, some pre-requisites may be able to be taken concurrently.)

Course Details

Term: Fall 2019

Course name: Senior Design I

Course number: ME 4201

Section Number: 02

Meeting Time: T 8:00-850pm

Room Number: Q-108

Course Learning Outcomes

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

1. An ability to communicate effectively by writing and submitting a design proposal.
2. An ability to function on multidisciplinary teams by selecting teams of 2-4 students based on diversity of their backgrounds and skills.

3. A recognition of the need for, and an ability to engage in life-long learning, by conducting a literature and/or patent search for their design project.

ABET Performance Indicators for ME Program

- c - An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental social, political, ethical, health and safety, manufacturability, and sustainability.
 - c1 - Formulate a problem statement that clearly describes the need for the design
 - c2 - Analyze constraints (such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability)
 - c3 - Select a final design solution by evaluating the alternatives using a quantitative process that identifies and weighs design criteria

- d - Function in MultiDisciplinary Teams
 - d1 - Recognize the skills and knowledge available from various team members and utilizes them to achieve the common goal
 - d2 - Participates in active discussion of ideas and incorporates input from all team members in making decisions
 - d3 - Respects others opinions and follows team rules of non-interference

- j - a knowledge of contemporary issues
 - j1 - Identify contemporary issues related to mechanical engineering practice
 - j2 - Identify research areas within mechanical engineering
 - j3 - Discuss potential solutions to contemporary issues related to mechanical engineering

Textbook and Supplies

Textbook

Voland, Gerard, *Engineering By Design*, 2nd Edition, Pearson, 2003, (ISBN 978-0131409194).
 This book is optional. Note that it is also the text from ME 3201, Product Realization.

Lab/Design Notebook

A lab/design notebook or organized binder to keep notes on your senior design project. Alternatively, if you have a tablet and stylus, you could use a note-taking app.

Technical Requirement

Access to D2L is essential for the course material and instructions.

Grading Policy

| | |
|---|-------------|
| Senior Project Proposal – Written Report | 40% |
| Senior Project Proposal – Oral Presentation | 25% |
| Other Assignments – draft proposal, project selection, etc. | 25% |
| Peer Evaluations & Team Project Participation – <i>severe team performance deficiency can cause even lower grade or failing</i> | 10% |
| Total | 100% |

Grade Conversion: A: (89.5-100), B: (79.5-89.4), C: (69.5-79.4), D: (59.5-69.4), F: (0-59.4)

Course Expectations

Communications

- You are expected to check your email daily. I will communicate with you via the email account that is assigned to you by Kennesaw State.
- Visit the D2L website for this course for grades, important announcements, documents, reading and homework assignments, and other helpful information.
- Active class participation is expected. Inattention will not be tolerated.
- Questions regarding grading must be submitted in writing to the professor within one week from the date that the work was returned. Be aware that once a problem is reopened for grading, the grade on the disputed problems could theoretically go down if additional errors are discovered during the grade review.

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.

Help Resources

Contacts to get Help

Student Help Desk studenthelpdesk@kennesaw.edu or call 470.578.3555 [KSU Service Desk](#)

All Federal, BOR and KSU Student Policies

https://curriculum.kennesaw.edu/resources/federal_bor_ksu_student_policies.php

KSU Student Resources

https://curriculum.kennesaw.edu/resources/ksu_student_resources_for_course_syllabus.php

SPCEET College Tutoring Center

The Southern Polytechnic College offers drop-in tutoring at its Peer Mentoring Center, located in room Q 306. Tutors are available for a dozen subjects, including Graphics, Dynamics, and others. The complete list of supported courses, as well as a schedule of availability for each subject, can be found on the college website at engineering.kennesaw.edu/peer-mentoring-center. The center is open from 8 AM to 9 PM, Monday through Saturday. Email questions to peermentoringcenter@kennesaw.edu.