

# ME 1001 - 01, 02 & 03 – SPRING 2020

## Instructor

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

**Office Location:** Q 319

**Office Hours:** MTWR 4-5pm

T 645-845pm



**KENNESAW STATE  
UNIVERSITY**

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

## Course Description

### Catalog Description (Credit Hours: 2-0-2)

*2 x 110 minute lectures (2 credits).* This course is an introduction to Engineering, with a focus on Mechanical Engineering. A strong emphasis will be placed on techniques for undergraduate student success, and preparation for careers in engineering and/or graduate studies. Students will be introduced to engineering faculty and student organizations. Kennesaw State and Mechanical Engineering Program policies and curricula will be discussed.

*Our special focus this semester will be on Engineering Failures.*

### Prerequisites

None, but it is recommended that you be a Mechanical Engineering major.

### Course Details

Term: Spring 2020

Course name: Introduction to Mechanical Engineering

Course number: ME 1001

Section Number: 01

Meeting Time: T 5:00-6:40pm

Room Number: Q 109

Section Number: 03

Meeting Time: W 6:45-8:25pm

Room Number: Q 314

Section Number: 02

Meeting Time: R 5:00-6:40pm

Room Number: Q 109

### Learning Outcomes

After completing this course, you should be able to:

- 1) Demonstrate the knowledge of the departmental and university policies, including the creation of a plan of study leading to graduation (h)
- 2) Describe techniques and knowledge of study skills, test taking, library skills, time management and campus resources, specific for mechanical engineering (k)
- 3) Demonstrate knowledge of his/her learning style and explain how it fits with other learning styles (j)

- 4) Identify career opportunities in Mechanical Engineering, and their relationships to other disciplines (h,i)
- 5) Describe the Mechanical Engineering Program curriculum (h,j)
- 6) Solve engineering textbook problems using scientific/engineering problem solving methods, (a,e,l,m)
- 7) Learn and apply the engineering design process (a,b,d,f,m)
- 8) Introduce students to basic features of computer packages, which may include Excel and MATLAB, create tables, perform calculations, and graphs and make successful PowerPoint presentations (b,e,g)

## Performance Indicators for ME Program

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Upon completion of the course, the students should have:

- i – A recognition of the need for, and an ability to engage in life-long learning.
  - i1 – Demonstrate the ability for self directed learning.
  - i2 - List the benefits of and steps necessary to attain professional registration.
  - i3 - Demonstrate an ability to identify professional development opportunities within Mechanical Engineering

## Textbook and Supplies

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### Textbook

Landis, Peuker & Mott, *Studying Engineering: A Road Map to a Rewarding Career*, **5th Edition**, Discovery Press, 2018, (ISBN 978-0-9793487-2-3). This book is mandatory, and most homework will come from it. However, you do not need to bring it to class.

### Course Lecture Notes

You must print out lecture notes for the entire semester, and bring them to each class. You can find them on D2L. They are entitled ME 1001 Lecture Notes – with blanks – SP20. Alternatively, if you have a tablet with a stylus, you can download the notes and use a note-taking app. Note, using your phone is not sufficient. When printing them out, I suggest you print them two-sided. Do not print out more than one page per sheet.

### Engineering Drawing Kit

30-60-90 and 45-45-90 triangles,  
Erasable colored pencils,  
Protractor, metric/English ruler  
White stick eraser,  
Mechanical pencil  
Engineering Computation Pad (green paper)  
Stapler (to keep in your book bag)

## Technical Requirement

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

Note that this is the first semester with the 5<sup>th</sup> edition. Don't get the 4<sup>th</sup> edition - get the 5<sup>th</sup> - otherwise HW assignments may be messed up!

## Grading Policy

Assignments	70%
Design Project	25%
Attendance**	5%
<b>Total</b>	<b>100%</b>

**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

### Attendance Policy

Attendance is mandatory. **Students missing more than 2 absences will fail** the course since we only meet once a week. There will be a sign-in sheet for each section. Tardiness will count as ½ absence, as will inattention, such as working on outside tasks or being on your computer or phone. Falsification of attendance records in any manner is an act of academic dishonesty. But if you have the flu or similar illness and are likely contagious, do not come to class. Please email me and see a classmate on what you missed as you are completely responsible for the content missed.

### Homework / Other Assignments

- Homework will be assigned with clear due dates and is expected to be completed individually. Collaboration on homework is allowed, but it is the responsibility of each student to understand all material. Students who follow this rigor are much more likely to be successful on the exams.
- Homework assignments will either be electronically handed in via D2L Brightspace, or physically handed in during class. (Most homework will be handed in via electronically.)
- All homework assignments must be typed and (with the exception of the Excel homework) submitted to D2L in **PDF format**, using the following file naming format: ***Last Name – First Name – HW#.pdf***.
- Homework problems to be turned in on paper will not be accepted *unless* they are printed neatly, in pencil, on the front side only (non-grid side) of engineering green paper, following the engineering method, and stapled. See guidelines in subsequent paragraphs.
- **Late homework will be deducted 20% for every 24 hours late.** Late submissions will not be accepted if the assignment solution is discussed in class.
- Extra credit opportunities will most likely not exist in this (or most other college) course. Extra credit opportunities will *never* be allowed on an *individual* basis or after the semester is completed. You should **not** count on extra credit to help your grade.

### Final Exam

There is no final exam for this course. We will use our final exam time for oral presentations.

### Course Communication

- You are expected to check your email **daily**. I will communicate with you via the student email account that is assigned to you by Kennesaw State. You are responsible for knowing where each system sends your email. You can direct it to another account if you choose (gmail, etc.)
- Visit the D2L Brightspace website for this course for grades, important announcements, documents, reading and homework assignments, and other helpful information.

- Do **NOT SEND ME EMAIL VIA D2L!** The D2L email server is convenient, but flawed in that I cannot reply to your emails.

## **Recommendations and Additional Expectations**

- You will need to print out course lecture notes, and bring those notes to every class.
- As in every class, take *comprehensive* notes. Everything that the professor writes down, you should write in your notes. You should *additionally* take notes on some things that the professor verbalizes but does not write down.
- Blatant disregard for the instructor or speaker will not be tolerated. This includes talking or whispering to classmates, surfing the internet, texting (non-emergencies), playing games, reading newspapers, doing other course homework, sleeping, etc. The instructor may ask you to leave if you are breaking these obvious class rules. Turn your cell phone off or turn it on vibrate mode. If you must answer an important call such as a family emergency, quietly leave the classroom and talk in hallway. Violation of this policy will count as a ½ absence.
- Active class participation is expected. Inattention will not be tolerated.
- Regarding **collaboration** with your classmates....collaboration is great and I *highly* recommend it, but with the following **caution**: often the most difficult part of a problem is the synthesis, i.e. the initial understanding of what you need to find and how you need to go about it. If you collaborate with a friend, you might find that *they* are the ones developing the solution method, and you may be in big trouble during the weekly quiz when you must develop the solution independently. If someone helps you with a homework problem or concept, try repeating the reasoning and process method back to your helper at the end of the problem to make sure that you fully understand the concepts.
- Questions regarding the grading of a problem 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.

## **Guidelines for Homework Completed on Paper**

The vast majority of assignment will be handed in via D2L, but a couple of assignments will be handed in on paper. For those assignments that are completed on paper, these guidelines must be followed:

### **PROBLEM SOLUTION PROCEDURE**

In this course you must use a systematic approach to problem solving. I recommend the following, rather abbreviated method.

1. **Given:** After carefully reading the problem, state briefly and concisely what is known about the problem. Do not repeat the problem statement.
2. **Find:** State briefly and concisely what must be found.
3. **Sketch or Free Body Diagram:** Draw a sketch and/or FBD of the system.
4. **Analysis:** Begin your analysis by applying appropriate solution techniques, and introduce equations as needed. *Develop the analysis as completely as possible before substituting numerical values.* Perform the calculations needed to obtain the desired results.
5. **Solution:** Your answer(s) must be boxed.

## FORMAT REQUIREMENTS

Work will *not* be accepted if it does not meet the following format requirements:

1. Write your name on every page, and **staple** multiple pages. Use standard **green engineering paper**. Work sequentially **down** the page. Do not crowd your work. Be neat and legible. **Work completed on the back (grid) side of the paper will not be graded.**
2. Use a **mechanical pencil**, 0.5 or 0.7 mm diameter lead; HB, F, or H hardness. Use **colored pencils** to show force vectors, motion, dimensions, etc. Make sure that you purchase **erasable** colored pencils.
3. Sketch neatly and print legibly (do not use cursive – print all words). Use rulers, straight edges, templates, protractors, etc. for all drawings, sketches and graphs. Sloppy work will **not** be accepted.
4. Erasures need to be complete, or neatly cross out errors with a single line. Note that it is possible to purchase correction fluid in “ledger green”, which covers on engineering green paper nicely.
5. Separate problems by starting a new sheet (preferable), or by drawing a horizontal line across the page.
6. Remember to include units as necessary; using them throughout the calculations is a good way to verify the accuracy of your work as you proceed. You will lose points if you do not include units in the calculations and answers.

## Help Resources

### Contacts to get Help

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Student Help Desk [studenthelpdesk@kennesaw.edu](mailto: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](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](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](http://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](mailto:peermentoringcenter@kennesaw.edu).