



SYLLABUS

SOUTHERN POLYTECHNIC COLLEGE OF ENGINEERING & ENGINEERING TECHNOLOGY
MECHANICAL ENGINEERING DEPARTMENT
MET 1311/ W01: MANUFACTURING PROCESSES
SUMMER 2021

Course Information

Class meeting time: *NA*
Modality and Location: *Online, Asynchronous*
Syllabus is posted in D2L

Instructor Information

Name: Simin Nasser, Ph.D., P.E.
Email: snasser1@kennesaw.edu
Website: <http://facultyweb.kennesaw.edu/snasser1/index.php>
Office Location: Q150
Office phone: 470-578-7420 (Please use KSU email for contacting your instructor)
Office Hours: Online via Microsoft Teams by Appointment
Preferred method of communication: KSU Email

Course Description

3 Class Hours 0 Laboratory Hours 3 Credit Hours

An introduction to industrial manufacturing processes used for converting raw materials into finished products. Various processes, machinery, and operations will be examined with emphasis placed on understanding engineering materials and processing parameters that influence design considerations, product quality, and production costs.

Prerequisite: None. Students should have basic knowledge on algebra and physics.

Course Materials

Required Texts: NA

Recommended Texts: Fundamentals of Modern Manufacturing; Materials, Processes and Systems, by M. P. Groover, John Wiley & Sons, Inc. *Any edition.*

About the book: In this modern, quantitative approach to manufacturing, Mikell Groover offers balanced coverage of the three basic engineering materials, metals, ceramics, polymers, as well as composites along with recently developed manufacturing processes and electronics manufacturing technologies. Throughout Fundamentals of Modern Manufacturing, the emphasis is on manufacturing science and quantitative analysis of manufacturing processes. This emphasis helps students understand the relationships among the material properties and the process variables in a given manufacturing process.

Technology requirements: NA

Learning Outcomes

By the end of this course, students will be able to:

- List basic product design and manufacturability.
- Explain basic physical and mechanical properties (metals, polymers, ceramics and composites), behaviors, and failure modes and their relevance to manufacturing processes.
- List atomic structure and the elements, bonding between atoms and molecules, crystalline and noncrystalline structures.
- Distinguish heat treating methods for metals and their purposes.
- Describe selected metals forming operations and calculate the associated force and energy requirements.
- Describe molding and casting processes for metals (such as sand casting, die casting, EPS, pressure casting, vacuum molding, lost wax, shell molding, etc.).
- Describe the selected shaping processes for polymers (such as injection molding, blow molding, extrusion, etc.).
- Describe manufacturing processes for powder metal alloys.
- Categorize different machining operations (turning, milling, grinding, EDM, ECM and others) and describe various machinery.

Engineering problems are solved related to physical and mechanical properties of metals and also forming and shaping of metals.

The above-mentioned outcomes or objectives are assessed by 12 Homework Quizzes, 5 Tests, Discussions, and Cumulative Final exam.

Course Requirements and Assignments

Your grade in this course will be determined from your performance on:

- Class activities and discussions,
- 12 HW assignments, 5 tests and one final exam.

Taking part in Discussions is mandatory and points will be taken off final grade in case the student is inactive in class. This is for online delivery format.

One discussion is for introducing yourself and the other one is the Project Discussion. Please see "Projects" module for more info.

Tests, HW assignments and final exam: These are in the form of true/false questions and multiple choices, and are given after certain modules are covered. HW quizzes and tests cover the course materials which were taught in the previous session (or sessions). Each test has maximum 50 questions and final exam has maximum 150 questions (for online class there are 70 questions).

Final Exam: All the above chapters

Announcements forwarding should be done for this course:

In D2L, click on the arrow next to your name on the top right of the screen (above the date). Choose "**Notification.**"

- 1- See if you would like to use any other email rather than the KSU one. Remember that all communications with your professors should be via your KSU email though.
- 2- You can register your mobile number if you wish.

- 3- Under "**Instant Notifications**", make sure that the boxes in front of **Announcements** or News are checked. This is to receive all the notifications about this course. Your instructor will write in D2L in the announcement section and the news will be emailed (or texted) to you. Check all others if you wish to get notifications about your grades and feedbacks.
- 4- save the changes.

Evaluation and Grading Policies

Discussions (10%), Homework quizzes (30%), Tests (40%), Final exam (20%)

Details: Introduction Discussion=3%, Project Discussion 7%, Each Homework Quiz=2.5%, Each test=8%

[90 - 100% = A, 80 - 89% = B 70 - 79% = C 60 - 69% = D Below 60% = F]

Feedback on Homework, Tests, and Exams are typically provided 1 week after the submission's due date if requested by the student.

I will round up grades if they are > or = .5 or above, for example, an 89.6 is an A, but 79.2 is a C.

Course Policies

Academic dishonesty and non-academic misconduct, in any form, is not tolerated in the classroom. This includes, but is not limited to, cheating, plagiarism, and disorderly conduct. Please refer to sections in the Undergraduate Catalog on "A Disruptive Behavior and Academic Dishonesty". Also, please find more info in the section below.

Email Response Time:

The instructor is committed to answering all emails within two school days from the time you first transmit the email, unless he/she lets you know in advance of travel prohibiting him/her from doing so (or if there is an emergency). At times the instructor will send mass emails to the class or posts announcements on D2L. This will be through D2L email and alternately with the campus mail. Check your KSU student email and D2L accounts frequently!

Student Responsibility:

Distance learning requires more individual discipline than traditional classes, and requires that you have at least some control over your time and schedule. It is not easier or less time than face-to-face courses.

During each week, students are expected to:

- Check D2L course website regularly,
- Follow the weekly study guide,
- Study the assigned material, such as; virtual lectures, textbook chapters, PPT slides, etc.,
- Complete and submit assigned quizzes or homework on time.

Tips for Effective Online Learning:

For an online class, students can really enjoy the benefits of learning at your own pace and in whatever environment that you choose. Below are some tips for effective online learning:

1. Check the D2L course website regularly. Always be aware of the current status of the course. It might be helpful to subscribe to the RSS feeds within the News Tool, sign up for text message alerts, or subscribe to your posts within the Discussion Tool. By taking advantage of the tools within the environment and the posted learning material, you can maintain an enhanced learning experience.

2. Work closely with your instructor. If you have any questions, please contact me immediately. The best way to contact me is via email or text, and you will be guaranteed to have a reply within 12 hours.
3. Begin your work early. If you can start a task early, don't start late. Assuming you spend the same amount of time completing the task, starting later will be much more stressful than starting early. Never wait until the last minute to begin an assignment! You'll have no turnaround time if you need help or something happens.

What is Plagiarism?

Plagiarism is defined as the practice of taking someone else's work or ideas and passing them off as one's own. If you are unaware or uncertain on how to properly cite a particular source, please do not neglect to add the citation—that is considered plagiarism.

If you have questions on how to cite your work, please contact me immediately! For more information, please refer to the "Plagiarism Policy" under the Policies section of this syllabus.

Turnitin:

Students agree that by taking this course all required papers may be subject to submission for textual similarity review to Turnitin.com for the detection of plagiarism. All submitted papers will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers. Use of the Turnitin.com service is subject to the Terms and Conditions of Use posted on the Turnitin.com site.

Department or College Policies

Please see this file's last pages.

Institutional Policies

[Federal, BOR, & KSU Course Syllabus Policies](#)

KSU Student Resources

This link contains information on help and resources available to students: [KSU Student Resources for Course Syllabus](#)

Course Tentative Schedule

Please check D2L for the updated files:

June 2021							
Week	Mon	Tue	Wed	Thurs	Fr	Sat	Sun
1			2 Post Intro Discussion	3	4	5	6
2	7	8 <i>Last Day to Register & Drop/Add Intro discussion Due</i>	9 HW Quizzes 1 & 2	10	11	12 HW 3 & Test 1	13 Test 1
3	14 Test 1	15	16	17	18	19 HW 4	20
4	21	22	23 HW 5	24 Test 2	25 Test 2	26 Test 2	27 Test 2
5	28	29 <i>Review HW 7 answers</i>	30 HWs 6 and 8				

July 2021							
Week	Mon	Tue	Wed	Thurs	Fr	Sat	Sun
				1 Test 3	2 Test 3	3 Test 3	4 Test 3
6	5	6	7	8 HWs 9 and 10 <i>Project Discussion is available</i>	9 <i>Review HW 11 answers</i>	10 Test 4	11 Test 4
7	12 Test 4	13 Test 4	14	15	16	17	18
8	19 HW 12	20	21 HWs 13 & 14	22 Test 5	23 Test 5	24 Test 5	25 Test 5
9	26	27 (last day) <i>Project Discussion ends</i>	28 Final Exam	29 Final Exam	30 Final Exam		Grades due Aug 2

- HW quiz 1: From Chapter 1
- HW 2: Chapter 2
- HW 3: Chapter 4
- Test 1: Chapters 1, 2 & 4
- HW 4: Chapter 6
- HW 5: Chapter 3
- Test 2: Chapters 3 & 6
- HW 6: Chapter 10
- HW 7: Chapter 11 (omitted, answers are posted))

- HW 8: Chapter 16
- Test 3: Chapters 10, 11, & 16
- HW 9: Chapter 18
- HW 10: Chapter 19
- HW 11: Chapter 20 (Omitted, answers are posted)
- Test 4: Chapters 18, 19 and 20
- HW 12: Chapter 8
- HW 13: Chapter 13
- HW 14: Chapter 21/22
- Test 5: Chapters 8, 13 and 21/22

Help Resources

Contacts to get Help

Student Help Desk studenthelpdesk@kennesaw.edu or call 470.578.3555

Additional Resources

Remote access to Library Resources: <http://library.kennesaw.edu/>

Tutoring and Academic Support: <https://engineering.kennesaw.edu/peer-mentoring-center/index.php>

Advising: <https://engineering.kennesaw.edu/advising.php>

Bookstore: <http://bookstore.kennesaw.edu/home.aspx>

Privacy Policy Links

D2L: <http://www.brightspace.com/legal/privacy/>

University Policies

Academic Honesty

Every KSU student is responsible for upholding the provisions of the Student Code of Conduct, as published in the Undergraduate and Graduate Catalogs. Section II 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 University Judiciary Program, 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.

Plagiarism Policy

No student shall receive, attempt to receive, knowingly give or attempt to give unauthorized assistance in the preparation of any work required to be submitted for credit as part of a course (including examinations, laboratory reports, essays, themes, term papers, etc.). When direct quotations are used, they should be indicated, and when the ideas, theories, data, figures, graphs, programs, electronic based information or illustrations of someone other than the student are incorporated into a paper or used in a project, they should be duly acknowledged.

Disability Statement

Kennesaw State University provides program accessibility and reasonable accommodations for persons defined as disabled under Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. Kennesaw State University does not deny admission or subject to discrimination in admission any qualified disabled student.

A number of services are available to help students with disabilities with their academic work. In order to make arrangements for special services, students must visit the Office for Student Disability Services and make an appointment to arrange an individual assistance plan. In most cases, certification of disability is required.

Special services are based on

- medical and/or psychological certification of disability,
- eligibility for services by outside agencies, and
- ability to complete tasks required in courses.

ADA Position Statement

Kennesaw State University, a member of the University System of Georgia, does not discriminate on the basis of race, color, religion, age, sex, national origin or disability in employment or provision of services. Kennesaw State University does not discriminate on the basis of disability in the admission or access to, or treatment or employment in, its programs or activities.

The Americans with Disabilities Act (ADA), Public Law 101-336, gives civil rights protections to individuals with disabilities. This statute guarantees equal opportunity for this protected group in the areas of public accommodations, employment, transportation, state and local government services and telecommunications.

The following individuals have been designated by the President of the University to provide assistance and ensure compliance with the ADA. Should you require assistance or have further questions about the ADA, please contact:

- ADA Compliance Officer for Students
470-578-6443
- ADA Compliance Officer for Facilities
470-578-6224
- ADA Compliance Officer for Employees
470-578-6030