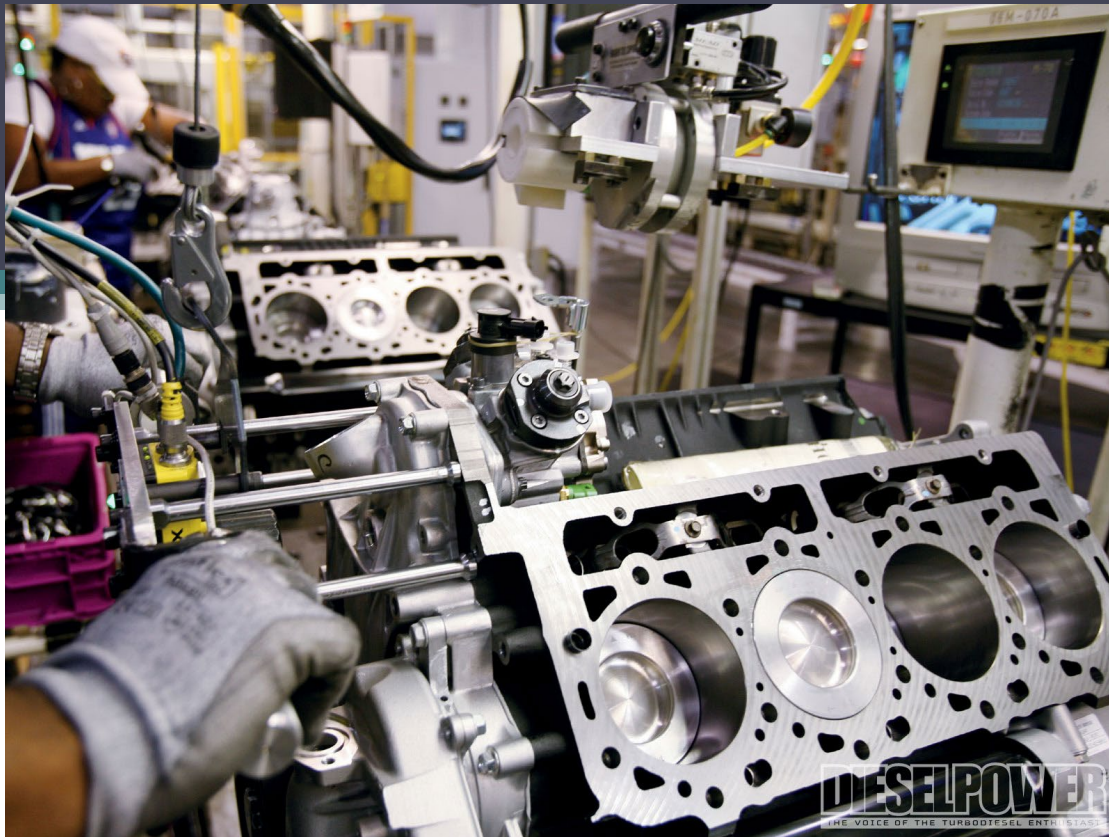


# Welcome to Manufacturing Engineering Online Class!



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(Ph.D., P.E.)

Southern Polytechnic  
College of Engineering and  
Engineering Technology  
KSU

# How to Start

- Go to Desire to Learn or D2L:  
<https://d2l.kennesaw.edu/>
- Use your university login/password to log in.



The screenshot shows the top portion of a web browser displaying the Kennesaw State University website. The browser's address bar shows the URL <https://d2l.kennesaw.edu>. The website header features the Kennesaw State University logo and navigation links: About KSU, Academics, Admissions, Athletics, Campus Life, Research, and Global. A search bar is also present. Below the header is a large image of a student working at a computer. Overlaid on the bottom of this image is the text "D2L Brightspace Access". Below the image, there is a "LOGIN TO KSU D2L BRIGHTSPACE" button. To the right of the login button, there is a "SYSTEM CHECK" section with a link to "Please click here for a system check before you log in." Below the system check, there is a "SERVICES STATUS" section with a link to "KSU Services Status Page".

**D2L Brightspace Access**

[LOGIN TO KSU D2L BRIGHTSPACE](#)

D2L Brightspace requires Duo two-factor authentication. ([Duo help page](#))

Access disruption for D2L Brightspace on Sunday, May 19

UITS will perform maintenance to update the infrastructure supporting the university network. For those users on-campus, including campus housing, a full outage is expected. Off-campus users will experience intermittent outages. During this time, D2L Brightspace may experience intermittent connectivity and periods of total downtime.

**SYSTEM CHECK**  
Please click here for a system check before you log in.

**SERVICES STATUS**  
[KSU Services Status Page](#)

If you can not log in,  
contact the service  
desk:

470-578-3555

[studenthelpdesk@kennesaw.edu](mailto:studenthelpdesk@kennesaw.edu)

# How to Start

- Find the Manufacturing Engineering (ME 3701, section W01 link and click on it.



Manufacturing  
Engineering Section

The course content is based on “Introduction to Manufacturing Processes,” textbook by Mikell Groover (which is optional to purchase).

# Short Biography [\(http://facultyweb.kennesaw.edu/snasser1/\)](http://facultyweb.kennesaw.edu/snasser1/)

**Dr Simin Nasser** obtained her Ph.D. in Mechanical Engineering from Sydney University, Australia where she worked as a senior scientist. She joined SPSU/KSU in 2006, working at MET department from 2006 to 2015 and in the ME department from 2015 so far.

**She has** about 25 years of academic/industry experience and has published about 30 books, book chapters, patents and papers (mainly in peer-reviewed journals). Besides, she has published a book titled: “Solving Mechanical Engineering Problems with MATLAB,” which is used in all sections of Matlab for Engineers and Engineering Computation courses at ME and MET departments.

**She has industrial work experience** related to design and manufacturing, has served as the SME faculty advisor from 2006, and has taught 15 undergraduate and graduate courses at KSU related to engineering mechanics, design, manufacturing, programming, etc.

**Her research experience** are related to Manufacturing, Rheology and viscoelasticity, Polymer processing, Biomechanical engineering (artificial organs and soft tissue rheology), Computational mechanics, Robotics, and Micromachinery. She has won many fellowships, awards and grants.

In 2019, she received the KSU distinguished professor award, for excellence in teaching, research and service.

# Syllabus

- Click on **CONTENT** and **START HERE** to see some important files.

Read the course **syllabus**. It is consisted of all the information that you need to know about this course.

Remember that **BUYING THE BOOK IS OPTIONAL**. Groover's book is excellent and you can purchase any EDITION, if you want.

The screenshot shows a course management system interface. At the top, there are navigation tabs: Course Home, Content, Discussions, Assignments, Quizzes, Other, Classlist, Grades, and Course Admin. Below the tabs is a search bar labeled 'Search Topics'. On the left, there is a 'Table of Contents' sidebar with a search icon and a list of items: Overview, Bookmarks, Course Schedule, Table of Contents (115), Start here (1), Tentative Schedule (2), and Course Content (91). A red arrow points from the 'Start here' link in the sidebar to the 'Syllabus' item in the main content area. The main content area has a 'Start here' dropdown menu with options: 'Add dates and restrictions...', 'Add a description...', 'Upload / Create', 'Existing Activities', and 'Bulk Edit'. Below the menu, there are three items: 'Welcome' (PowerPoint Presentation), 'Syllabus' (Web Page), and 'News and email forwarding' (Web Page).

To do well in my class, it is sufficient to study the slideshows and solved engineering problems that I have prepared for you. Try to watch the videos too.

# Calendar

Click on [Tentative Schedule Module](#) and print out the “Tentative Calendar” and keep it handy and always remember to check the dates for homework quizzes and tests.

May-June 2019

Mon	Tue	Wed	Thurs	Fr	Sat	Sun
			May 30th Introduction Discussion	May 31st	1 June	2
3 Last Day to Register and Drop/Add	4 HW 1 & 2	5	6 HW 3 and Test 1	7 Test 1	8 Test 1	9 Test 1
10	11	12	13 HW 4	14	15	16
17	18	19 HW 5	20 Test 2	21 Test 2	22 Test 2	23 Test 2
24	25	26 HW 6 and 8	27 Test 3	28 Test 3	29 Test 3	30 Test 3

July 2019

Mon	Tue	Wed	Thurs	Fr	Sat	Sun
1	2	3	4 HW 9 and 10 Project Discussion is available	5 Test 4	6 Test 4	7 Test 4
8 Test 4	9	10	11 HW 12	12	13	14 HW 13 & 14
15 Test 5	16 Test 5	17 Test 5	18 Test 5 (last day of class)	19	20 Final Exam	21 Final Exam
22 Final Exam	23 Final Exam	24 Project Discussion	25	26	27	28 Grades due

If you study **gradually** and do not miss any assessment, most probably you will earn a high grade in this class.

# Chapters Taught

Click on [Tentative Schedule Module](#) and review the “Summary of all HW quizzes and Tests.”

The course materials are taught based on a special order. Metals and most of their processes will be taught and then polymers and their processes. Then at the end, some additional processes are taught. So check the [Chapters and Assessments](#) file too.

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 11

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

Final Exam: All the above chapters

This schedule is a sample

# Chapters Taught (8-week or 16-week Semester)

Week	Subject	Chapters of the Groover's book	Assessments Due
1- Part 1	Engineering Materials, Design for Manufacturing	Ch1	Post your Introduction discussion
1- Part 2	Metals, Alloys	Ch 6	
2- Part 1	Mechanical Properties	Ch3	HW 1 (Week 1-Part 1 Materials), HW 2 (Chapter 6)
2- Part 2	Mechanical Properties	Ch3	HW 3 (Ch 3)
3- Part 1	Casting	Chs 10& 11	TEST 1 (Chs 3 & 6), HW 4 (Ch 10)
3- Part 2	Powder Metallurgy, Metal Forming	Chs 16 and 18	
4- Part 1	Rolling and Forging	Ch 19	Review HW 5 answers, Take HW 6 (Chapter 16)
4- Part 2	Extrusion and Bar Drawing	Ch 19	Test 2 (Chs 10, 11 & 16)
5- Part 1	Sheet Metal Working	Ch 20	HW 7 (Chapter 18), HW 8 (Chapter 19)
5- Part 2	Cutting Tools	Ch 23	Review HW 9 answers, Test 3 (Chs 18, 19 & 20)
6- Part 1	Cutting Tools	Ch 23	
6- Part 2	Polymers	Ch 8	Test 4 (Ch 23)
7- Part 1	Polymer Processing	Ch 13	HW 10 (Ch 8), HW 11 (Ch 13)
7- Part 2	Turning, Milling and Grinding	Chs 21, 22 & 25	HW 12 (Chs 21/22)
8- Part 1	Additive Manufacturing	Ch 34	HW 13 (Ch 34) FYI, Omitted from Online class
8- Part 2	Review		Test 5 (Chs 8, 13, 21, 22)
Week 9			Final Exam

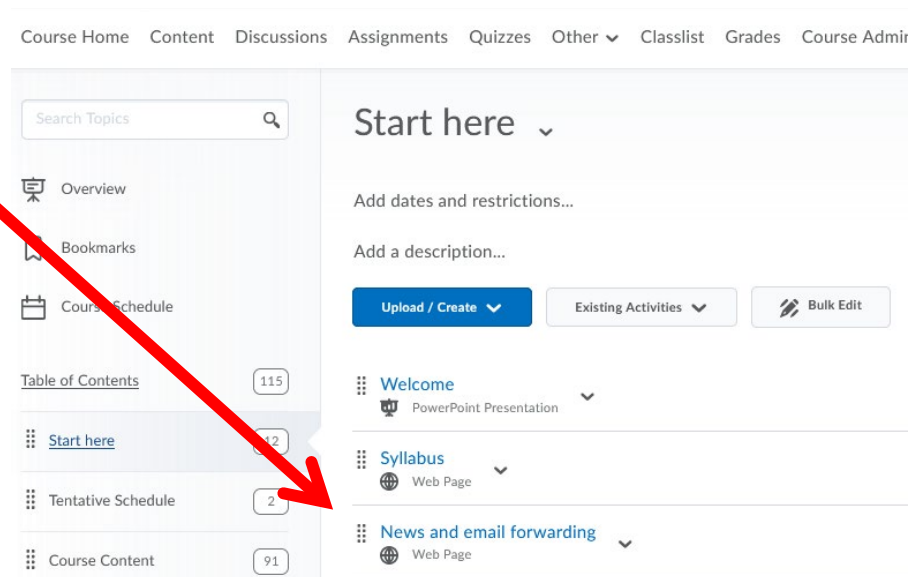


# News Forwarding

This is very important!

- Check the [News forwarding](#) file and follow the instructions.

If you don't do this, you will not receive the announcements that I post in D2L.

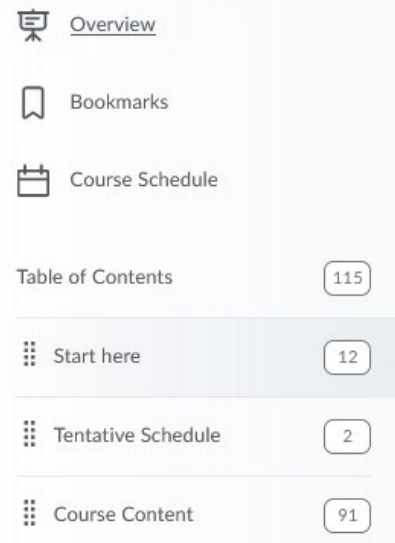


The screenshot shows a D2L course interface. At the top, there is a navigation bar with links: Course Home, Content, Discussions, Assignments, Quizzes, Other, Classlist, Grades, and Course Admin. Below this is a search bar labeled 'Search Topics'. On the left side, there is a 'Table of Contents' section with a list of items and their corresponding page numbers: Overview (115), Bookmarks, Course Schedule, Start here (112), Tentative Schedule (2), and Course Content (91). A red arrow points from the 'Start here' link in the Table of Contents to the 'News and email forwarding' link in the main content area. The main content area has a 'Start here' dropdown menu, followed by 'Add dates and restrictions...' and 'Add a description...' fields. Below these are three buttons: 'Upload / Create', 'Existing Activities', and 'Bulk Edit'. The main content area also displays a list of items: Welcome (PowerPoint Presentation), Syllabus (Web Page), and News and email forwarding (Web Page).

# Course Content

Course Home **Content** Discussions Assignments Quizzes Other ▾ Classlist

- **Course content** folder contains the weekly folders. Each folder contains the power point slide shows, solved problems for each chapter and some video clips.



A screenshot of a course navigation menu. The menu items are: Overview, Bookmarks, Course Schedule, Table of Contents (with a count of 115), Start here (with a count of 12), Tentative Schedule (with a count of 2), and Course Content (with a count of 91). A red arrow points from the top of the menu down to the 'Course Content' item.

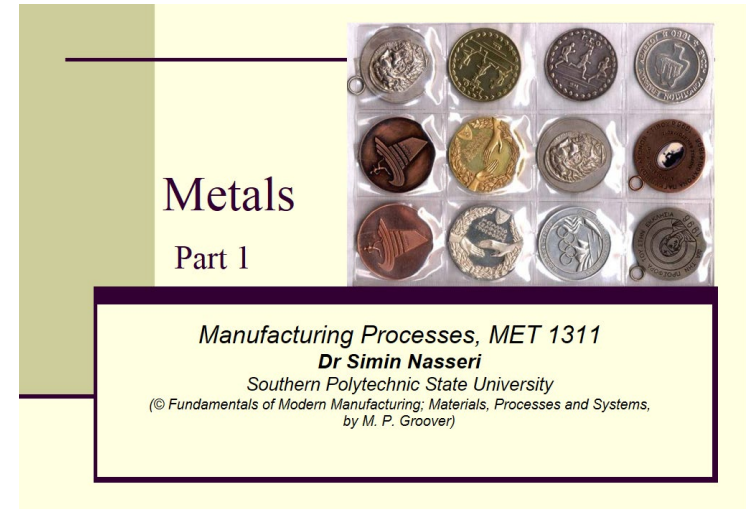
Overview	
Bookmarks	
Course Schedule	
Table of Contents	115
Start here	12
Tentative Schedule	2
Course Content	91

Remember that the chapters are placed in the folders considering a certain order.

The calendar shows the order of chapters that you should study.

# Weekly Modules

- Each Module contains objectives, Power-Point shows, solved engineering problems and video clips.



**3.20** A metal alloy has been tested in a tensile test with the following results for the flow curve parameters: strength coefficient = 620.5 MPa and strain-hardening exponent = 0.26. The same metal is now tested in a compression test in which the starting height of the specimen = 62.5 mm and its diameter = 25 mm. Assuming that the cross section increases uniformly, determine the load required to compress the specimen to a height of (a) 50 mm and (b) 37.5 mm.

**Solution:** Starting volume of test specimen  $V = \pi h D_0^2 / 4 = 62.5 \pi (25)^2 / 4 = 30679.6 \text{ mm}^3$ .

(a) At  $h = 50 \text{ mm}$ ,  $\epsilon = \ln(62.5/50) = \ln(1.25) = 0.223$

$$Y_f = 620.5 (.223)^{-0.26} = 420.1 \text{ MPa}$$

$$\text{Area} = \text{Volume} / \text{Length} = V/L = 30679.6/50 = 613.6 \text{ mm}^2$$

$$F = 420.1(613.6) = 257,770 \text{ N}$$

(b) At  $h = 37.5 \text{ mm}$ ,  $\epsilon = \ln(62.5/37.5) = \ln(1.667) = 0.511$

$$Y_f = 620.5(0.511)^{-0.26} = 521.1 \text{ MPa}$$

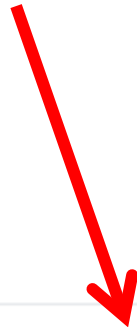
$$A = V/L = 30679.6/37.5 = 818.1 \text{ mm}^2$$

$$F = 521.1(818.1) = 426,312 \text{ N}$$

Download the files to your computer and then watch them. Animations in the PPS files can only be seen if you download the files first.

# Discussions

- **Discussions** have some weights on your final grade and you are to participate in them. Start the first discussion by **introducing yourself** as soon as you enter D2L. This is also important for reporting your attendance. Each discussion has a due date.



# Quizzes

- The [assignments](#) are in the form of [quizzes with about 20 questions](#). You have certain amount of time to finish them. More info is given on each quiz when you click on it. The first HW Quizzes are due soon. So start to study the first two chapters.



[Course Home](#) [Content](#) [Discussions](#) [Assignments](#) [Quizzes](#) [Other](#) ▾ [Classlist](#)

They are consisted of multiple-choice or true-false questions. Questions are drawn from the questions library and are randomized for all students. Practice professionalism and rely on your own efforts and knowledge. Train yourself to be a wonderful engineer.

D2L will report to me if quizzes/tests for students are taken at exactly the same time with the same scores.

# Tests

- Each **TEST** is open for 3 days. Each test has between 40 to 50 multiple-choice or true-false questions. There is a limited time for each **one-attempt** test. Don't forget to *save the answers* before submitting the test. There are 5 tests.
- *I will NOT open the assessments, under any circumstances, after their deadlines. So try not to miss them.*



# Final Exam

- **Final Exam** is cumulative and will be open for 3 days. It has **70** multiple-choice or true-false questions.
- You have 2 hours to complete the exam (**one attempt**). Don't forget to *save the answers* before submitting it.
- *Try not to miss it, because it will not be available when it closes.*



# How It's Made Projects

- Project discussion might get assigned for this course and is open for the many weeks in the semester.
- Detailed explanations are provided.
- Try not to miss it, because it will not be available when it closes.

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[Course Home](#) [Content](#) [Discussions](#) [Assignments](#) [Quizzes](#) [Other](#) ▾ [Classlist](#)



# Contact me

- Do not hesitate to email me ([snasser1@kennesaw.edu](mailto:snasser1@kennesaw.edu)) if you have any question or concern. You can also write your questions in discussion area: “**Ask me questions.**”
- Good luck and I hope you enjoy this class and learn a lot!

