ENGR152 – ASSIGNMENTS - FALL 2020

Meriam and Kraige's *Engineering Mechanics: STATICS*, 8th ed.

You do not need to buy the book. The MESA Center has a classroom set to loan to the students in the class. You should be able to pick a copy up at the MESA Center the first week of August (details to be announced) along with a pack of engineering paper and decimal ruler (tenths of an inch). While earlier editions of the text may be used for study, **problems will come from the 8th Ed**.

The 8th edition is also on reserve in the MESA Center, the STEM Center and the AHC Library Reserve.

CAUTION: Problems SUBJECT TO CHANGE

Submitting Assignments

For face-to-face classes:

- Do your homework (HW) on *engineering paper* (you will get a pack of 200 sheets at the start of the term). Follow the guidelines for HW in the syllabus.
- Staple each assignment as a separate packet.
- Turn in your HW in class or in the HW Box in M-208, depending on instructions, by the due date.

For ERT classes (Fall 2020, until further notice):

- Do your homework (HW) on *engineering paper* (you will get a pack of 200 sheets at the start of the term). Follow the guidelines for HW in the syllabus.
- Scan your pages for the assignment and collate them into a single PDF.
- Upload the PDF into Canvas by the due date listed in Canvas.

Here are a few smartphone apps that let you scan documents and convert them into PDFs:

- Adobe Scan
- CamScanner

Solutions

- Numerical answers to all 8th ed. problems are in the back of the text.
- Brief solutions will be posted/distributed after the assignment has been turned in.

Homework Assignments begin on *Page 2*

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CAUTION: Problems SUBJECT TO CHANGE – Double-check the assignment on Canvas.

No.	Date Assigned/ Updated	[Chapter/Section]	Assignment 8th Edition	Due
1	07/04/20	**[1/all]**	**2*, 7*, 9** (problems available as PDF on Canvas and website) **Notes:** **#2:** For the "**Graphical solution**" means use trigonometric and/or geometric methods (laws of sines, cosines, etc.); **OR** draw vectors *to scale* and measure lengths and angles. "**Algebraic**" means use vector algebra (i-hat, j-hat, etc.) **#7**: Do not calculate your own weight. **#9**: See Table D/2 (pg.486).	**Mon. 8/24 11:59pm Canvas**
2	07/04/20	**[2/3] Forces** **[2/4] Moments**	**4, 14, 16, 26;** **31, 38, 50, 56**	
3	07/04/20	**[2/5] Couples** **[2/6] Resultants**	**64, 67, 70;** **86, 89, 91**	
4	07/04/20	**[2/7] 3d Forces** **[2/8] 3d Moments** **[2/9] Resultants**	**105, 106, 112, 113;** **130, 136*, 138;** **155, 164** **Notes:** **#105** give scalar components and not vector components. **#136:** In back-of-book solution, *z*-component of $\mathbf{M_o}$ should be –714, not –14. #105 & #130 are linked; #112 & #138 are linked.	
5	07/04/20	**[3/1 to 3/3] Equilibrium**	**4, 12, 14, 24, 37, 44, 54, 57**	
6	07/04/20	**[3/4] 3d Equil.**	**63, 76, 83, 88**	
7	07/04/20	**[4/3] Trusses: MOJ** **[4/4] Trusses: MOS**	**8, 10, 17, 23 -** Use Method of Joints: **38, 43, 45, 47** - Use Method of Sections:	
8	07/04/20	**[4/5] 3-d Truss** **[4/6]: Frames; Machines**	**60, 67** **Do not turn in** 3d-truss probs - but **do** them. **FRAMES/MACHINES** **80, 97, 104, 108, 117, 124**	

Homework Assignments #9–14 are on *Page 3*

No.	Date Assigned/ Updated	[Chapter/Section]	Assignment 8th Edition	Due
9	07/04/20	**[5/3] Center of Mass, Integration**	**9, 11, 17, 20** (use Integration for all probs. in 5/3)	
10	07/04/20	**[5/4] Composite Bodies** **[5/6] Beams, External**	**52, 59, 65, 72;** **103, 107, 110, 117**	
11	07/04/20	**[5/7] Beams, Internal**	**130, 133, 134, 140, 142, 150**	
12	07/04/20	**[5/8] Cables**	**157, 159, 162, 165**	KEEP
13	07/04/20	**[A/2] Moment of Inertia** **[A/3] Moment of Inertia**	**14, 28** - Use integration; **35, 41, 49** - Use composite areas	KEEP
14	07/04/20	**[6/3] Friction** **[6/8,9] Belts, Rolling**	**2, 18, 22, 24, 33** **99, 105, 106**	