MEEG 2003 Statics

2003-001 (1185) TR (9:30 a.m. – 10:45 a.m.)   MEEG 212   Spring 2018

Text: *Engineering Mechanics: Statics, Second Edition,* I. C. Jong, GRL, 2013

Date	Day	Mtg. #		Topics	Problems
1/16	T	1		Fundamental concepts	1→50, App. A; 1.3, 8, 10
18	R	2		Fundamental laws	1.13, 17, 19, 22→32
23	T★	3✎		Addition & resolution of forces	2.6, 13, 17, 40
25	R	4		Equilibrium of particles	2.48, 50, 56, 59†
30	T	5		Equilibrium of particles	2.61, 64, 66, 71
2/1	R★	6✎		Action to rotate a body	3.2, 11, 15, 16
6	T	7		Moments: using vector algebra	3.26, 28, 35, 37
8	R	8		Moments: using vector algebra	3.38, 39, 46, 53
13	T★	9		Review & Problem 4 of Test I	
15	**R**	**10**		**Test I** *(in MEEG 212, 5:00 p.m. – 7:00 p.m.)*	
20	T	11		Equivalent & equipollent systems	4.8, 12, 13, 14
22	R	12		Rigid-body equilibrium in a plane	4.19, 24, 27, 35
27	T	13		Rigid-body equilibrium in space	4.37, 38, 49, 52
3/1	R★	14✎		POM, centroids & ctrs. of gravity	5.3, 10, 13, 16
6	T	15		Areas, distributed loads, volumes	5.18, 23, 34, 36
8	R	16		Area moments of inertia, PAT	5.63, 72, 85, 86
13	T★	17✎		Trusses	6.9, 23,† 6.34, 38
15	R★	18		Review & Problem 4 of Test II	
27	T	19		**Test II** *(in MEEG 212, 6:00 p.m. – 8:00 p.m.)*	
29	R	20		Frames and machines	6.58, 60, 63, 64
4/3	T	21		Frames and machines	6.67, 68, 69, 123
5	R★	22✎		Friction between rigid bodies	7.10, 13, 29, 31
10	T	23		Belt friction	7.51, 52, 53, 59
12	R	24		Belt friction	7.63, 67, 72, 82
17	T★	25✎		Work, displacement ctr., virtual work	8.4, 8, 9, 12
19	R	26		Work, displacement ctr., virtual work	8.24, 27, 30, 31
24	T★	27		Review & Problem 4 of Test III	
26	**R**	**28**		**Test III** *(in MEEG 212, 5:00 p.m. – 7:00 p.m.)*	
5/1	T	29		General Review	
5/3	R	30		General Review	
5/10	R	31	*tbd*	**Final Exam** (Chaps. 1 – 8) 8:00 a.m. – 10:00 a.m.	

★ During the early part of this class meeting, a **homework** will be collected.

✎ A 20-25-min **quiz** will be given on the topics already covered in previous meetings.

† Problem to be solved using computer software.

The *checklist* for each class meeting, sample *quizzes*, sample *tests*, *software*, and *others* are available on the
ICJ Home Page at: http://comp.uark.edu/~icjong/.

About the Course

2003-001 (1185) TR (9:30 a.m. – 10:45 a.m.) MEEG 212   Spring 2018

Instructor: Ing-Chang Jong, Ph.D., P.E.   Office: MEEG 204E   Phone: 575-4350
Professor of Mechanical Engineering   E-mail: icjong@uark.edu

TA Graders: *Sarah* Colpitts

Drill Sessions Tutor: *Kashu* Yamazaki

        Time: 6:00 p.m. – 8:00 p.m., Mondays and Wednesdays   **Room:** BELL 2267

Supplies: Calculator, engineering paper, mechanical pencil, eraser, *transparent* 6-in. plastic ruler, and compass for drawing circles.

Homework, Quizzes, Tests, and Grades

Statics is a course aimed at developing in students the concepts and skills in the analysis and prediction of conditions of bodies under the action of balanced force systems. The evaluation of your efforts and achievement in this course will be based on the following: **9** collections of home-work (each worth 5 points), **6** *quizzes* (each worth 10 points), **3** *tests* (each worth 100 points), *n pop quizzes* (each worth 5 pts), and **a** final exam (worth **100** points). The total score you can possibly earn in this course is, therefore, **505 + 5n** points. You are required to have a student ID with you when you take the scheduled tests and the final exam. (A rule: failure to have the required ID or failure to observe the seating assignments during each of the scheduled tests, -5%) Full credit makeups for any of the scheduled events are to be approved in advance by the instructor; other-wise, the approval may require a proof of emergency.

Scheduled tests. Each of the three scheduled tests will contain the following:

■ Problems 1 & 2: These are similar to the homework or example problems. To receive full credit, your solutions need to include pertinent sketches or diagrams, setup of equations, intermediate steps in the solutions, and final answers with appropriate number of significant digits as well as correct units. (60 points)

■ Problem 3: Multiple-choice questions with *different* numbers are given to students. Grading is based on the correct choices you *circled* on the test sheet. (20 points, *no partial credit*)

■ Problem 4: Non-numerical problem, covering descriptions of terms, laws, and principles, or derivations of formulas; given in the meeting preceding the scheduled test. (20 points)

■ Contingent bonus points**.** To be explained in class.

Grades. Except involvement in academic dishonesty or an unusual case (e.g., *lack of civility* or *breach of decorum* in class), your final grade will be at least *A*, *B*, *C*, and *D* if your final overall average score in this course is at least 91%, 81%, 71%, and 61%, respectively. Nevertheless, a grading curve in favor of the class may be employed at the discretion of the instructor.

Advice

● Silence your *cell phone* during class meetings.

● Review and study the various items (e.g., syllabus, checklists, class notes, sample quizzes, sample tests, computer software, papers, etc.) that have been posted online. Ask your questions in class, complete the homework after class, and attend *drill sessions* to get additional needed help from the CLASS tutor.

● Usually, the best time to get additional needed help from the instructor is during 1:30 p.m. – 2:30 p.m. on Mondays and Wednesdays in his office, unless he has other meetings during the indicated time.

● Normally, a student needs to reserve *6 hours per week* (about twice the class time) *outside the class* for the reading, doing homework, and getting needed help.