EGM 3520 Mechanics of Materials (MoM)

Motivation 1: Important historical case, Titanic, why the disaster happened

Motivation 2: Simpler cases for MoM course

Important course information

Motivation 3: Important historical case, Tacoma Narrows Bridge collapse
Curriculum roadmap: The big picture

Statics

Dynamics

Intermediate Engineering Analysis

Discovery of Neptune

Numerical methods

Mechanics of Materials

RMS Titanic

Vibration

Finite Element Analysis and Design

Tacoma Narrows Bridge collapse

Fluid Mechanics

Vortex-induced vibration

Aerodynamics

Aeroelasticity
Course info: Click at course title
Syllabus: From course info
Other important info: Policy, reports, exams, grading
Also access from Sakai  https://lss.at.ufl.edu/

Important links

"The formulation of a problem is often more essential than its solution, which may be merely a matter of mathematical or experimental skill."

A. Einstein in [Dan Meyer: Math class needs a makeover]
http://www.youtube.com/watch?v=NWUFjb8w9Ps

Lecture plan: Including lecture notes, references, inspiring quotations, and other info related to the course. See syllabus and other course wikis.

Report table: Formal project reports, NOT the usual (and casual) HW for 10% course grade. Used for team presentations. See other courses wikis.
Writing tools: Important docs for efficient wiki writing

Writing tools, pros and cons

Collaborative writing: Mediawiki

Almost-WYSIWYG wiki writing

Macros for MS Word, OpenOffice

Other courses: Browse through to have an idea

Additional collaborative tools:

Open your skype account [http://www.skype.com/]

Conference call (team, TAs, instructor)

Open gmail account to use google+

Screen sharing in groups of more than two

Open your scribblar account [http://www.scribblar.com/]

Online white board for discussion (team, TAs, instructor)

Team formation

Fill survey form (sent out by e-mail) immediately upon receiving it, before drop/add deadline.
HW:

Read course info, syllabus, policy

Browse Report Table

Read Writing tools, pros and cons
Almost-WYSIWYG wiki writing
Report guidelines

Open skype, gmail, scribblar accounts, and fill (sent out by e-mail)

(end HW) ///

Note:

HW = assignments, no written report required.
Pb-sc.n = Problem for section "sc", number "n".

3 slashes (///) mark the end of a section that begins with a blue, underlined title.

Page number 1-4 = Section number 1, page 4.

(end Note) ///

Enroll = Agree with teaching and learning style
("Open-source" teaching and learning)
Note: Class mailing lists (listserv)

Important course info, announcements, etc. are conveyed by e-mail via the class mailing lists.

It is **important** that you are on the class mailing list. I already sent out e-mails to the class mailing list; if you did not receive any of my e-mails through listserv, that means your e-mail address was not on the list.

If you are registered for the course, and did **NOT** receive my e-mails to listserv, please send me an e-mail with the subject header

"**MoM:** Add e-mail to class mailing list"

subject tag for **ALL** e-mails related to the course

**IMPORTANT:** If you are a new student at UF, and have **not** logged into your UF webmail (gatorlink) account for the first time, **do so immediately** so your gatorlink e-mail address would be registered in the class roll, and added to the class mailing list of your section. Set webmail to **forward** your gatorlink e-mails to your main e-mail account (e.g., gmail, yahoo, etc.)
Class e-mail archive:

All e-mails to the class are archived. To search for all class announcements, go to the class e-mail archive.

For instructions on how to access the class e-mail archive, go to course web site (syllabus):

https://sites.google.com/site/eml4507.s13/

Inspiring video on teamwork and learning:
A hole in the wall, how children learn without a teacher

http://www.ted.com/talks/sugata_mitra_shows_how_kids_teach_themselves.html

Massive open online courses: edX (MITx), Coursera

"... MOOCs are creating opportunities in developing countries. This spring, students at a high school in Mongolia participated in an engineering MOOC, and two of them earned A's. "It is not difficult to imagine a talented Mongolian high school student applying to MIT with such a credential in hand," says ... a Stanford graduate student who [taught] at the Mongolian school."

Marklein, USA Today, 2012.09.12
"Even though my IPPD project was with a different sponsoring company, I was able to use my opportunities from IPPD to relay my experiences with teamwork, overcoming obstacles, and leadership during my interviews with Lockheed Martin."

P.W., a Software Engineer at Lockheed Martin, graduated in 2007, UF with a Bachelors in Computer Science in Engineering degree, Lockheed Martin Leadership Development Program

So what about P.W.?
MOOCs and latex: Tools for
   Life-long learning
   Professional advancement
P.W.
   Took a MOOC on Artificial Intelligence (AI)
   Top 1000 among 160,000 students
   Left Lockheed Martin, Orlando for Google
   Top salary of software engineers: Google