

EGM 3401 – Engineering Mechanics-Dynamics SPRING 2020

Syllabus (a.k.a. our contract for the semester)

COURSE INSTRUCTOR: Dr. Riccardo Bevilacqua, MAE-A 308, bevilr@ufl.edu, 352-392-6230. Office hours: Mondays 11am-1pm.

CLASS WEBSITE: canvas

CLASS MEETS: M, W, F, period 3 (9:35 a.m. - 10:25 a.m.), WEIL 270.

TEACHING ASSISTANT: Samantha Harris, harris.samantha@ufl.edu office hrs.: NEB 138, Wednesday, 4-6pm.

COURSE DESCRIPTION: Kinematics and kinetics of particles, systems of particles, and rigid bodies.

TEXTBOOK: Rao, A. V., *Dynamics of Particles and Rigid Bodies: A Systematic Approach*, Cambridge University Press, 2006.

COURSE OBJECTIVES: The objective of this course is to provide a thorough and systematic introduction to the subject of dynamics of particles and rigid bodies using a Newton-Euler approach. All development is done in a coordinate-free manner and will be applied to several examples.

INDICATIVE CALENDAR BY MAIN TOPICS:

Kinematics - 3 Weeks

Kinetics of Particles - 3 Weeks

Kinetics of a System of Particles - 3 Weeks

Kinetics of Rigid Bodies - 4 Weeks

Special Topics - 2 Weeks

HOMEWORK: This class has 12 homeworks. The instructor will assign them each Friday (excluding the first week and last full week of classes), and they will be due in 1 week. They will be take home and each weighted 2/100 points by default (i.e., if turned in in time). The instructor/TA will randomly select 10 students whose homeworks will be inspected/graded each week.

Additional problems from the textbook should be pro-actively solved by the students. In solving problems from the textbook, students can skip the following:

chapter 2: YOU CAN SKIP # 8, 13, 17, 23, 26

chapter 3: YOU CAN SKIP # 6, 8, 9, 17, 20,

chapter 4: YOU CAN SKIP # 2, 3, 5, 6, 7, 11, 14, 18, 19, 20, 24

chapter 5: YOU CAN SKIP # 4, 13, 14, 18

chapter 6: YOU CAN SKIP # 1, 2, 3, 4, 6, 10

EXAMS: two in-class, 50 minute exams, and a final.

- **EXAM 1 February 28th, 2020 (in-class).**
- **EXAM 2 April 22nd, 2020 (in-class).**
- **FINAL EXAM 28th April, 2020 @ 7:30 AM - 9:30 AM**

Grading is 38/100 points per exam. In-class exams are shorter and more focused than the comprehensive final. If you choose to show at the final, the final grade will replace the lowest score of the two in-class exams, no matter if the final score is higher or lower. The final will also count 38/100 points.

No questions or collaborations are allowed during exams. **Exams are closed books and no notes.**

THE DATES WILL NOT CHANGE; PLEASE, DO NOT ASK, THE ANSWER IS NO.

MIDTERM SURVEY: Bonus 5% will be given to those taking the time to complete the optional midterm survey within 2 days. The additional points will obviously make no difference for those with 100/100, but will be counted for all other cases.

GRADING POLICY: The grading scale is as follows:

A: 94 to 100

A-: 90 to 93.99

B+: 85 to 89.99

B: 80 to 84.99

B-: 75 to 79.99

C+: 70 to 74.99

C: 65 to 69.99

C-: 60 to 64.99

D+: 55 to 59.99

D: 50 to 54.99

D-: 45 to 49.99

E: Less Than 45

CLASS ATTENDANCE AND MAKE UP POLICY: The general rule is no make-up exams and no rescheduling of exams to other times.

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

The students remain completely responsible for timely communications with the instructor.

STUDENTS WITH DISABILITIES: Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, www.dso.ufl.edu/drc/) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester. In other words: immediately at the beginning.

CHEATING POLICY: absolutely zero tolerance. Your examinations must be completed completely independently. If anyone is caught having worked together on an exam or having used an unauthorized source, the penalty is an automatic failure of the course.

Cheating breaks the mutual trust between instructor and student. Cheating will invariably result in an automatic “E” grade and the incident will be reported to the University.

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Students should also familiarize with the Code of Ethics for Engineers: <http://www.nspe.org/resources/ethics/code-ethics>

ONLINE STUDENTS COURSE EVALUATION: Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three

weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>.

The instructor will also provide a midterm evaluation form to the students, to monitor the development of the class, and make necessary adjustments, when possible. I value your input, and that is why I am giving you an incentive to complete this optional survey at mid-semester. See also grading policy for points assigned to this survey.

CLASS DEMEANOR EXPECTED BY THE INSTRUCTOR: I have little tolerance for students who are repeatedly late to class, cell phone ringing, text messages beeps, and any behavior that may be distracting both students and instructor. Repeated offenders will be asked to leave the classroom, and the lecture will not resume until they comply. If they do not comply, the lecture will be given for granted and the instructor will move on.

Also, I will not be eating while teaching (obviously!), and I expect you not to eat in class.

Contact information for the Counseling and Wellness Center: <http://www.counseling.ufl.edu/cwc/Default.aspx>, 392-1575; and the **University Police Department:** 392-1111 or 9-1-1 for emergencies