

MECH ENG 2QA4 ENGINEERING MECHANICS: KINEMATICS AND DYNAMICS

2019 Fall term

INSTRUCTOR: Dr. Gary Bone

E-mail: gary@mcmaster.ca, **Please include “2QA4” in the subject line.**

OFFICE LOCATION: JHE-326F

OFFICE HOURS: 1) The best way to reach me is by email.
2) The best time to see me is immediately after class.
3) If that doesn't work then call me at ext. 27591 to see if I'm available.
4) A meeting time can also be arranged by email.

TEACHING ASSISTANTS: To be announced on Avenue to Learn.

TEXTBOOK: R.C. Hibbeler, **Engineering Mechanics: Dynamics**, 14th Edition (older editions that cover the same material are also fine), Prentice Hall, 2017.

OTHER MATERIALS: Practice problems and other learning aids will be posted on Avenue to Learn.

COURSE OUTLINE

1. Kinematics of a Particle (Chapter 12)
2. Kinetics of a Particle: Force and Acceleration (Chapter 13, except 13.7)
3. Kinetics of a Particle: Work and Energy (Chapter 14)
4. Kinetics of a Particle: Impulse and Momentum (Chapter 15, except 15.8, 15.9)
5. Planar Kinematics of a Rigid Body (Chapter 16, except 16.4)
6. Planar Kinetics of a Rigid Body: Force and Acceleration (Chapter 17)
7. Planar Kinetics of a Rigid Body: Work and Energy (Chapter 18)
8. Planar Kinetics of a Rigid Body: Impulse and Momentum (Chapter 19)
9. Vibrations (Chapter 22)
10. Introduction to Robot Mechanics*

*If time permits. Robot mechanics notes by Dr. Bone will be posted on Avenue to Learn.

McMaster Policy Reminders:

The Faculty of Engineering is concerned with ensuring an environment that is free of all adverse discrimination. If there is a problem, that cannot be resolved by discussion among the persons involved, individual are reminded that they should contact the Department Chair, the Sexual Harassment Office or the Human Rights Consultant, as soon as possible

Academic dishonesty consists of misrepresentation by deception or by other fraudulent means and can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university.

It is your responsibility to understand what constitutes academic dishonesty. For information on the various kinds of academic dishonesty please refer to the Academic Integrity Policy, specifically Appendix 3, located at http://www.mcmaster.ca/senate/academic/ac_integrity.htm

The following illustrates only three forms of academic dishonesty:

1. Plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained.
2. Improper collaboration in group work.
3. Copying or using unauthorized aids in tests and examinations.

The instructor and university reserve the right to modify elements of a course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check their McMaster email and course website weekly during the term and to note any changes.

COURSE EVALUATION

In-class Pop Quizzes	5%
Test 1 (50 min)*	10%
Test 2 (50 min)*	15%
Test 3 (50 min)*	15%
Final Exam (2.5 hrs)*	55%

*Student ID required, Closed Book, McMaster Standard Calculator (CASIO FX-991).

The dates and times for tests 1, 2, and 3 will be as follows (replacing the lectures on those dates):

Test 1: Oct. 4th, 9:30-10:20

Test 2: Nov. 1st, 9:30-10:20 and

Test 3: Nov. 26th, 9:30-10:20

The rooms for these tests will be announced on Avenue to Learn.