



Course Syllabus

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| Course ID | 0902201 |
| Course Title | Engineering Mechanics |
| Prerequisite | 0304102 |
| Time & Date | |
| Coordinator | |
| Instructor | Assoc. Prof. Dr. Head of Communication and electronics Department |
| Office hours | |
| Course Description | Static of particles. Rigid bodies. Equilibrium of rigid bodies. Distributed forces. Moment of inertia. Rigid bodies kinematics. Newton's second law. Work and energy for rigid bodies. Impulse and momentum for rigid bodies. Oscillations |
| Course Objectives | -Analyze and solve problems containing equilibrium of rigid bodies. -Solve problems concerning force acceleration, energy, and momentum. |
| Course Outcomes | After successfully completing this course, the students should be able to: (a) An ability to apply knowledge of and (b) An ability to design and conduct experiments, to analyze and interpret data (c) An ability to design a system, component, or process to meet desired needs (d) An ability to function on multi-disciplinary teams program outcomes (e) An ability to identify, formulate, and solve engineering problems (f) An understanding of professional and ethical responsibility (g) An ability to communicate effectively (h) The broad education necessary to understand the impact of engineering solutions in a global and societal context (i) A recognition of the need for, and an ability to engage in life-long learning (j) A knowledge of contemporary issues (k) An ability to use the techniques, |

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| | skills, and modern engineering tools necessary for engineering practice |
| Course Topics | (1)Statics of a particle (2)+(3)Rigid bodies: Equivalent System of forces (4)+(5)+(6) Equilibrium of Rigid bodies (7)+(8)Distributed forces: Moment of inertia (9)+(10)Kinematics of rigid bodies (11)Second exam Plane Motion of Rigid bodies: Force and Acceleration (12)+(13) (14) Plane Motion of Rigid bodies: Energy and Momentum (15)Specimen examination (Optional) Plane Motion of Rigid bodies: Energy and Momentum |
| Course Text Book | 1. Vector Mechanics for engineers: Statics and Dynamics, P. Beer and E. Johnston, McGraw Hill. 2. Engineering Mechanics, Statics. J.L. Meriam and L.G. Kraige, Willy. 3. Engineering Mechanics, Dynamics. J.L. Meriam and L.G. Kraige, Willy. |
| Course References | |
| Course delivery | Lectures Tutorial Lab Homework Project Computer Internet Industrial Visit |
| Course Assessment | Assignments & short reports..... 10% 2 exams @ 20% each 40% Final exam 50% |
| Updated | Dr. Saad 27/9/2009 |

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ABET a-k Engineering and Technology program outcome

- (a) An ability to apply knowledge of mathematics, science, and engineering
- (b) An ability to design and conduct experiments, to analyze and interpret data
- (c) An ability to design a system, component, or process to meet desired needs
- (d) An ability to function on multi-disciplinary teams
- (e) An ability to identify, formulate, and solve engineering problems
- (f) An understanding of professional and ethical responsibility
- (g) An ability to communicate effectively
- (h) The broad education necessary to understand the impact of engineering solutions in a global and societal context
- (i) A recognition of the need for, and an ability to engage in life-long learning
- (j) A knowledge of contemporary issues
- (k) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

Plagiarism

Deliberate plagiarism is a serious act of academic misconduct. Students may be suspended from the University if they are found to have plagiarized their course work. Whether inadvertent or deliberate, plagiarism includes the following:

- (a) word-for-word copying of sentences or whole paragraphs or presenting of substantial extracts from either paper-based or electronic sources the work or data of others that are published or unpublished (such as books, internal reports, and lecture notes or tapes) without clearly indicating their origin;
- (b) using very close paraphrasing of sentences or whole paragraphs without due acknowledgement in the form of reference to the original work;
- (c) submitting another student's work in whole or in part;
- (d) using of another person's ideas, work or research data without acknowledgement;
- (e) copying computer files, algorithms or computer code without clearly indicating their origin;
- (f) submitting work that has been written by someone else on the student's behalf; and submitting work that has been derived, in whole or in part, from another student's work by a process of mechanical transformation (e.g., changing variable names in computer programs)