

MECHANICAL ENGINEERING PROGRAM

ABET COURSE SYLLABUS

ME 320: Dynamics of Mechanics (3 credits): Required Course

Course Description (2008-2010 Catalog):

Algebraic and graphical methods for synthesis of cam, gear, and linkage mechanisms; methods of planar motion analysis; characteristics of plane motion, and kinematics.

Prerequisite by Topic:

- Dynamics
- Differential equation

Textbook: “Design of Machinery” 4th edition, Robert L. Norton, McGraw-Hill.

Other Reference Material:

Personal handouts, available on the course web site (<http://www.me.unlv.edu/~mbt/320/320.html>)

Course Coordinator: Mohamed Trabia, Professor

Course learning outcomes:

- Identify a machine.
- Suggest suitable dimensions to ensure that this machine achieves certain objective.
- Analyze displacement velocity, acceleration, and forces of machines.
- Design simple machines starting from an abstract specification list.

Relationship of Course to Mechanical Engineering Program Educational Outcomes:

Goal1: Provide mechanical engineering graduates with technical capabilities.					Goal 2: Prepare the mechanical engineering graduates to have effective workplace skills.				Goal 3: Instilling a sense of responsibility as a professional member of society.			
1.a	1.b	1.c	1.d	1.e	2.a	2.b	2.c	2.d	3.a	3.b	3.c	3.d
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Topics Covered:

- Knowledge of the basic terminology used in machines.
- Introducing basic mechanical systems.

- iii. Design (synthesis) of simple machines to achieve a desired objective.
- iv. Ability to analyze displacement velocity, acceleration, and forces of machines.
- v. Ability to use commercial software to achieve the above objectives.

Laboratory Projects: None

Class/Laboratory Schedule: 75 minutes lecture two sessions per week

Assessment of Student Progress toward Course Objectives

Three written exams, homework, three projects, and final exam

Class/Laboratory Schedule: MW 10:00-10:50 AM (Spring Semester)

Contribution of Course for meeting Professional Component:

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| (a) Mathematics and basic sciences: | 1 credit |
| (b) Engineering Topics (Design/Science): | 2 credit |
| (c) General Education: | 0 credit |
| (d) Others: | 0 credits |

Prepared By:

Mohamed Trabia

Date:

March 14, 2010