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


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:

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

Relationship of Course to Mechanical Engineering Program Educational Outcomes:

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<th>Goal 1: Provide mechanical engineering graduates with technical capabilities.</th>
<th>Goal 2: Prepare the mechanical engineering graduates to have effective workplace skills.</th>
<th>Goal 3: Instilling a sense of responsibility as a professional member of society.</th>
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Topics Covered:

i. Knowledge of the basic terminology used in machines.
ii. 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:

(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: Date:

Mohamed Trabia March 14, 2010