Menoufiya University
Faculty of Electronic Eng.
Department of Physics and Engineering Mathematics

جامعة المنوفية
كلية الهندسة الإلكترونية
قسم الفيزيقا والرياضيات الهندسية

Annual Course Report

(MECHANICS)

A- Basic Information

١	**Title and Code**	Mechanics PM ٠٠٥
٢	**Programme(s) on which this course is given**	Physics and engineering Math. Dept.
٣	**Academic year / Level of programme**	Preparatory year –٢nd Semester ٢٠١١-٢٠١٢
٤	**Units/Weekly hours**	

Lecture [٤] Tutorial/Practical [٢] Total [٦]

٥- **Names of lecturers contributing to the delivery of the course**

i- Prof. Dr. Magdy Kamel

Course coordinator: Prof. Dr. Magdy Kamel

External evaluators: Prof. Sayed M. Farag

B- Statistical Information

No. of students attending the course: No. [١٠٥٩] % [١٠٠]

No. of students completing the course: No. [١٠١٧] % [٩٦.٠٣]

Results:

Passed: No. [٨٧٣] % [٨٥.٨٤] Failed: No. [١٤٤] % [١٤.١٦]

Grading of successful students:

Excellent: No. [٦٤] % [٦.٢٩] Very Good: No. [١٤٢] % [١٣.٩٦]

Good: No. [١٨٠] % [١٧.٧] Pass: No. [٤٨٧] % [٤٧.٨٩]

C- Professional Information

١. Course Teaching

Topics	No of hours	Lecture/ hours	Tutorial
١. Vectors • Scalars and vectors, • Addition and subtraction of vectors, • Dot and cross product of two vectors, • Mixed triple product, • Vector triple product of vectors.	٥	٣	٢
٢. Statics in Plane • Moment of a force, • Couples, • Resultant of two, • Dimensional force systems, • Equilibrium conditions of two-dimensional force, • Systems Equivalent force systems).	٥	٣	٢
٣. Statics in Space • Moment of a force about a point, • Moment of a force about an axis, • Equilibrium and resultant of three -dimensional force systems, • Conditions of reduction of three -dimensional force systems to one force or couple or screws)	١٠	٦	٤
٤. Statics in Space • Reduction of three -dimensional force systems to one force or couple or screws.	٥	٣	٢
٥. Virtual Work • Definition of work and virtual work, • Principle of virtual work for a particle and rigid body, • Principle of virtual work for a system of connected bodies, • Criterion of equilibrium, • Stability of equilibrium, • Applications.	٥	٣	٢

٦. Kinematics of a particle motion in a straight line • Fundamental definitions and principles, • Graphical representation of the variables of motions, • Applications.	٥	٣	٢
٧. Kinematics of a particle motion in a plane • Components of velocity and acceleration in Cartesian, Polar and Intrinsic coordinates, • Motion on a circle, • Applications.	١٠	٦	٤
٨. Simple harmonic motion • Definitions: fundamental equations, phase angle, amplitude, periodic time, and frequency, • The simple pendulum, • Second pendulum, • Examples.	٥	٣	٢
٩. Projectiles • Motion of a projectile, • Project on a horizontal planes (time of flight), • range trajectory equation (path), • Maximum path of a projectile, Examples).	١٠	٦	٤
Total sum	٦٠	٣٦	٢٤

Topics taught as a percentage of the content specified:

>٩٠ % [ ] ٧٠-٩٠ % [√] <٧٠٪ [ ]

٢. Teaching and Learning Methods:

Lectures: [√]

Practical Training/ Laboratory: [ ]

Seminar/Workshop: [ ]

Class Activity: [√]

Case Study: ☐

Other Assignments/Homework: ☑

Case Study

Other assignments/homework:

A real world project assigned.

٣. Student Assessment:

Method of Assessment	Percentage of total
Written examination	٦٨
Midterm exams	١٦
Oral Examination	١٦
Practical/laboratory work	٠
Other Assignments/class work	٠
Total	١٠٠ %

Members of Examination Committee:

١. Prof. Dr. Emil Shoukralla
٢. Prof. Dr. Magdy Kamel
٣. Prof. Dr. Said El-Serafi

Role of external evaluator:

- Review examination to cover all objectives of the syllabus
- Confirming reliability and feasibility of the examination
- Determining repetition of the questions

٤. Facilities and Teaching Materials:

Totally adequate ☐

Adequate to some extent ☑

Inadequate ☐

٥. Administrative Constraints

- Students need extra hours to practice their exercises.

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٦. Student Evaluation of the course: Response of Course Team

- Insufficient assistant staff members.	- An extra exercises and solved problems are added to the course.

٧. **Comments from external evaluator(s):**

No comment.

٨. **Course Enhancement:**

٩. **Action Plan for Academic Year ٢٠١١ – ٢٠١٢:**

Improvement Field	Weak points	Action required	Person Responsible	Completion Date
Assessment Methods	Midterm only & Reports	- add quizzes - Research, survey	Lecturers	٢٠١٢
Quality of Teaching and Learning	- lack of facilities - Huge number of students - Insufficient assistant staff members.	- Increasing data show numbers -Dividing the students into subgroups. - New staff members cover the course	Faculty	٢٠١١
Learning resources	Lack of availability of teaching & learning resources	Increasing number of computers and Labs workshop facilities	- Faculty - Department	٢٠١٣
Course content	To be renewed and developed.	٢٠٪ of courses to be reviewed and replaced by new topics	- Lectures - Department	٢٠١١

Head of Department:

Prof. Dr. Magdi Kamel