



Annual Course Report (٢٠١٢-٢٠١٣)

(ENGINEERING MATHEMATICS ٢)

A- Basic Information

- ١ Title and Code Engineering Mathematics
PM ٠٠٢
- ٢ Programme(s) on which this course is given
- ٣ Academic year / Level of programme Preparatory year
Level (٠) – semester (٢nd)
- ٤ Units/Weekly hours
- | | | | | | |
|---------|--------------------------------|--------------------|--------------------------------|-------|--------------------------------|
| Lecture | <input type="text" value="٤"/> | Tutorial/Practical | <input type="text" value="٢"/> | Total | <input type="text" value="٦"/> |
|---------|--------------------------------|--------------------|--------------------------------|-------|--------------------------------|

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

- i- Dr. Hassan Abdulhafez
ii- Dr. Ramadan El-shanawany

Course coordinator: Dr. Hassan Abdulhafez

External evaluators: Prof. Sayed M. Farag

B- Statistical Information

No. of students attending the course: No. %

No. of students completing the course: No. %

Results:

Passed: No. % Failed: No. %

Grading of successful students:

Excellent: No. % Very Good: No. %

Good: No. % Pass: No. %

C- Professional Information

1. Course Teaching

Topic	No of hours	Lecture	Tutorial/ Practical
1. Theory of equations <ul style="list-style-type: none"> The remainder Theorem. Number of distinct roots of an equation, Descartes' rule of sign, Integral roots of an equation, Equation with integral coefficients, Transformations of equations. 	8	2	4
2. Linear Transformation <ul style="list-style-type: none"> Range and Kernel of a linear map, Inverse of a linear map, Composition of linear maps, Matrix of Linear Transformations, Algebra of Matrices, Range, kernel, rank and nullity of a matrix A, System of linear equations, Homogenous system of equations, 	12	3	6
3. Series <ul style="list-style-type: none"> Geometric Illustration of a convergent Series, Convergence and Divergence of series, Conditional and Absolute Convergence, Power series, General Instructions for Testing Series. 	8	2	4
4. The Straight line <ul style="list-style-type: none"> Introduction, Parametric equations of a straight line, Polar equations of a straight line, Change of axes, Transfer and rotations axes. 	8	2	4
5. The Equations which represent two straight lines <ul style="list-style-type: none"> The restricted angle between two straight lines, The common equation of bisector of two angles for two straight lines, Representation condition of the general equation of second degree for two 	4	1	2

straight lines,			
٥. The Circle <ul style="list-style-type: none"> • Parametric equations of the circle, • Polar equations of the circle, • The perpendicular equation on the circle, • The basic axis for two circles. 	٤	١	٢
٦. The conic sections <ul style="list-style-type: none"> • The general form for equation of conic section, • The parabola, • The ellipse, • The hyperbola. 	٨	٢	٤
Total sum	٥٢	١٣	٢٦

Topics taught as a percentage of the content specified:

>٩٠ % ٧٠-٩٠ % <٧٠%

٧. 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.

٨. Student Assessment:

Method of Assessment	Percentage of total
Written examination	٧٠
Midterm exams	١٥
Oral Examination	١٠
Practical/laboratory work	٥
Other Assignments/class work	٠

Total 100 %

Members of Examination Committee:

Dr. Hassan Abdulhafez
Dr. Ramadan El-shanawany

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

4. Facilities and Teaching Materials:

Totally adequate

Adequate to some extent

Inadequate

5. Administrative Constraints

- Students need extra hours to practice their exercises.
- Insufficient class rooms and facilities.

6. Student Evaluation of the course:

- Insufficient background in mathematical basis.

Response of Course Team:

- An extra exercises and solved problems are added to the course.

7. Comments from external evaluator(s):

There is a gap between up-to-date information and reference text books.

8. Course Enhancement:

Action Plan for Academic Year 2012 – 2013:

Improvement Field	Weak points	Action required	Person Responsible	Completion Date
Assessment Methods	Midterm only & Reports	- add quizzes - Research, survey	Lectures	2013
Quality of Teaching and Learning	- lack of facilities - Huge number of students	- Increasing data show numbers -Dividing the students into subgroups	Faculty	2012
Learning resources	Lack of availability of teaching & learning resources	Increasing number of computers and Labs workshop facilities	- Faculty - Department	2014
Course content	To be renewed and developed	20% of courses to be reviewed and replaced by new topics	- Lectures - Department	2012

Head of Department:

Prof. Dr. Magdy Kamel