نموذج مواصفات المقرر

جامعة : الفيـــــوم **كلية : التربيـــــــــــة**

Relevant Program*: B.Sc. (Science & Education), Mathematics ,Basic Education*
Major or minor element of programmes : Major

Department offering the program: Educational Depts. + Math Department Faculty of Science
Department offering the course: Mathematics

Academic year / Level Second Year (Second Term)

Date of specification approval : 20 / 10 / 2008

A- Basic Information

Title Solid Analytical Geometry Code: ١٧٢٢١ Mat

Credit Hours:--- Lecture: 3

Tutorial: 2 Practical: Total: 70

B- Professional Information

1- Overall Aims of Course

On completion of this course student will be able to:
1- Be familiar with the fundamental concepts of analytical geometry, and present these facts to others.

2- Know different coordinate systems and the classification of the second order equations in the plane.

3- Show logical thinking and be self independent in problem solving

2- Intended Learning Outcomes of Course (ILOs)

A- Knowledge and understanding:

١،١ أ. Classification of general form of second order equations in the plane.
٢،١ أ. Know and understand the operations on vector in 3-D
٣،١ أ. Know the canonical forms of the plane and the surfaces.

B- Intellectual Skills:

١-٣-ب Using geometric methods in many applications

٢-٣-ب Apply the geometric methods in calculus.

C- Professional and Practical Skills:

١-٢.ت Provide algebraic and geometric solutions

٢- .ت using geometric methods in many applications.

D- General and Transferable Skills:

١-١.ث Use new technological tools

١-٢.ث Group working.

١-٥.ث Problem solving.

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3- Contents :

Topic	No. of Hours	Lecture	Tutorial / Practical
1-The coordinates in 3D spaces: Cartesian coordinates, polar coordinates, cylindrical coordinates, relations between coordinates.	**12**	**4**	**8**
2-vectors in 3-D spaces: the vectors in geometry-vector algebra- the null vector-equality of vectors-opposite vectors-addition subraction, Multiplication of vectors by a number-the projection of point and line on an axis, the coordinates of points and vectors.	**12**	**4**	**8**
3- The plane: the equation of the plane-condition of parallelism of planes-condition of perpendicularity of planes-angle between two planes- a plane passing through three points-the normal equation of a plane.	**6**	**2**	**4**
4- the straight line in space: equations of straight lines in space- the intersection of a straight line and a plane- the direction vector-angle between a straight line and the coordinate axes-angle between the straight lines-conditions of parallelism and perpendicularity of a straight line and a plane.	**6**	**2**	**4**
5- the surfaces: the equation of the surface-the sphere- the ellipsoid- hyperboloid of one sheets- hyperboloid of two sheets-quadric conical surface-elliptic parapoloid- surfaces of revolution.	**6**	**2**	**4**

4- Teaching and Learning Methods:

4-1: Lectures.

4-2: Discussion sessions.

4-3: Research assignment.

5- Student Assessment Methods:

5-1: Written exam (mid-term) to assess the level of knowledge and understanding.

5-2: Class work (quizzes) to assess the level of Intellectual skills to discuss and solve some problems .

5-3: Written exam(at the end of term) to assess the ability to pass the Exam.

Assessment Schedule:

Assessment 1: Written exam (mid-term) Week 7

Assessment 2: Class work (quizzes) Week 4 - 8 - 12

Assessment 3: Written exam (at the end of term) Week at the end term.

Weighting of Assessments:

Mid-Term Examination	**30**	%
Final-Term Examination	**70**	%
Oral Examination		%
Practical Examination		%
Semester Work		%
Other Types of Assessment		%
Total :		100%

Any formative only assessments Homework

6- List of References:

6-1: Course Notes:

Course notes prepared by staff of math. Dept.

6-2: Essential Books (Text Books):

6-3: Recommended Books:

1- P. M. Cohn. Solid Geometry, New York, Reritledge, (1968).

2- A. J. Pettofrezzo and M. M. Lacafena: Analytic geometry with vectors, Scott Foresman and Company (1970).

6-4: Periodicals, Web Sites… etc:

http://www.eulc.edu.eg/eulc/libraries/index.aspx
www.eric.com
http://www.aghandoura.com/links.htm
http://www.almekbel.net/
http://mathworld.wolfram.com/http://www.math.niu.edu
http://www.mathforge.net/
http://www.numerical-recipes.com/
http://www.math.ubc.ca/people/faculty/cass/Euclid/byrne.html
http://ocw.mit.edu/OcwWeb/Mathematics/index.htm

7- Facilities Required for Teaching and Learning

Library contains new edition books with enough copies.

Computer Lab

Internet networks

Course Coordinator: Dr.Fatma

Head of Department Prof. Kamal Ahmed El Dab

Date: / /