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 (First Term)

Date of specification approval : 20 / 10 / 2008

A- Basic Information

Title: Calculus (2) Code: ١٧٢١٢ Mat

Credit Hours:-- Lecture: 3

Tutorial: 2 Practical: Total: 70

B- Professional Information

1- Overall Aims of Course

1- Extending the understanding of the concept of differentiation and integration introduced in calculus.
2-students will know and understand various techniques for differentiating, integrating different functions.
3-student will be able to apply the concepts on different topics .

2- Intended Learning Outcomes of Course (ILOs)

A- Knowledge and understanding:

١- أ. Students will know and understand the fundamental concepts

١-٢أ. Students will know and understand properties of limit, differentiation and integration.

B- Intellectual Skills:

١-٢ب. Student will be able to illustrate applications of the methods.

٢- ب. Show mathematical thinking for students to be self independent in problem solving.

C- professional and Practical Skills:

١-١.ت Students will be able to convey the meaning of these concepts to others.

١-٢.ت Training problem solving and studying in small team.

D- General and Transferable Skills:

١-٢.ث Group working.

١-٣.ث Problem solving.

١-٥.ث student will be able to apply the concepts on different topics.

3- Contents:

Topic	No. of Hours	Lecture	Tutorial / Practical
1-Review of calculus 1.	**12**	**4**	**8**
2- Inverse functions-exponential function-algorithmic function-hyperbolic function.	**12**	**4**	**8**
3- Application (mean value theorem-Hospital rule-Taylor expansion and leibenz 's formula).	**6**	**2**	**4**
4-Integration by parts by substituting- by reduction-improper integral.	**6**	**2**	**4**
5-Application of integration (area-arc length-surface and volume of revaluation) Abelian and elliptic integrals-Approximating method for integral with application.	**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):

M,jone(2008)Prepare for the AP Calculus Advanced Placement Exam.

6-3: Recommended Books:

Ross. K. Elementary analysis, the theory of calculus Springer Verlog Newyork, 1980.

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

Data show

Computer Lab

Internet networks

Course Coordinator: Dr.Fathay

Head of Department Prof. Kamal Ahmed El Dab

Date: / /