

Course Specifications:

Programme(s) on which the course is given: **Biology & geology**

Major or Minor element of programmes: Minor

Department offering the programme: Biology & Geology

Department offering the course: Mathematics

Academic year / Level: First year (Biology and Geology) / First Semester

Date of specification approval: 2008

A- Basic Information

Title: *Differential and Integral Calculus*

Code: 104 M

Credit Hours:

Lecture: 2 hrs/week

Tutorial: 1 hr/week **Practical:**

Total: 3 hrs/week

B- Professional Information

1 – Overall Aims of Course: At the end of these study students able to:

- i) Study the functions, the limits and the continuity.
- ii) Know the first derivative and the high derivatives of different kinds of functions and the finite integral for some functions.
- iii) Apply on the integrals.

2 – Intended Learning Outcomes of Course (ILOs)

Knowledge and Understanding: *At the end of the course the student will be able to:*

- a1- Know and understand the fundamental concepts of both differentiation and integration .
- a2- Illustrate application of the method .

a- Intellectual Skills:

- b1- Extend the mentality abilities for the student.
- b2- Make discussion concerning assigned problems.
- b3- Create of mental ability for the student.

b- Professional and Practical Skills:

When finishing the study of this subject the student will be able to:

- c1- Relate between topics.
- c2- Apply what was studying in the previous courses.
- c3- Develop the capability for thinking.

c- General and Transferable Skills:

At the end of this course the student will be able to:

- d1- Use computer
- d2- Work in groups.
- d3- Analysis of results.

3- Contents

Topics	No. of hours	Lecture	Tutorial/Practical
The functions ,the limits and the continuity	8	6	2
<i>The derivatives of different kinds of functions</i>	6	4	2
Role theorem , Taylor series	6	4	2
The finite integral for some functions	9	6	3
Applications on the integrals	7	4	3
Total	36	24	12

4- Teaching and Learning Methods

- 4.1-- Lecturing
- 4.2- Discussions
- 4.3- Exercises
- 4.4- Homework

5- Student Assessment Methods

- 5.1 Discussions to assess applying and evaluating the information
- 5.2 Quiz to assess the acquired the student ability to think
- 5.3 Mid term exam to assess understanding **intellectual** skills
- 5.4 End of term exam to assess knowledge with understanding

1- Assessment Schedule

- Assessment : Discussions Week 1-12
- Assessment : Quiz Week 3
- Assessment : Mid term Week 7
- Assessment : Final exam Week 14

Weighting of Assessments

Mid-Term Examination	10%
Final-term Examination	80%
Oral Examination.	5%
Practical Examination	%
Semester Work	5%
<u>Other types of assessment</u>	<u>%</u>
Total	100%

Any formative only assessments

6- List of References

- 6.1- Course Notes Manual note

6.2- Essential Books (Text Books)

Applied calculus c Taylor brooks /Cole ,1989

6.3- Recommended Books

Applied calculus c Taylor brooks /Cole ,1989

6.4- Periodicals, Web Sites: www.google.com, www.sciencedirect.com

7- Facilities Required for Teaching and Learning

- *Purchasing computers, boards, books and programs.*

Course Coordinator: Dr. Effat Abbas

Head of Department: Dr. Effat Abbas

Date:

