

Mutah University

Faculty of Science

Mathematic and Statistics Department



جامعة مؤتة

كلية العلوم

قسم الرياضيات والاحصاء

Calculus (1) Course Syllabus

Course Code	Course Name	Credits	Contact Hours
0301101	Calculus (1)	3	48

INSTRUCTOR/COORDINATOR

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TEXTBOOK

Calculus - Early Transcendentals by Jon Rogawski & Colin Adams, 4th Edition

SPECIFIC COURSE INFORMATION

A. Brief Description of the Content of the Course (Catalog Description)

The topics presented in this course: Functions, limits and continuity, derivatives, applications of the derivative, the integral, inverse functions, and techniques of integration.

B. Pre-requisites (P) or Co-requisites (C)

None

C. Course Type (Required or Elective)

Required (Compulsory Faculty Course)

SPECIFIC GOALS

A. Specific Outcomes of Instruction

At the completion of this course, students should be able to:

1. Calculate limits and understand the relationship between limits, continuity and differentiation; **[SLO 1]**
2. Have a practical understanding of the definition of the derivative and its interpretation as an instantaneous rate of change; **[SLO 1]**
3. Take the derivative of elementary functions, as well as the derivative of the sum, product, quotient, inverse and composition (chain rule) of elementary functions; **[SLO 1]**
4. Take the derivative of hyperbolic and implicitly defined functions;
5. Apply L'Hôpital's Rule to evaluate limits of indeterminate forms; **[SLO 1]** and
6. Use the derivative to solve optimization, linear approximation and related rates problems. **[SLO 1]**

B. Student Outcomes Addressed by the Course

1	2	3	4	5	6	7				
✓										

The topics presented in this course: , , , , , and.

BRIEF LIST OF TOPICS TO BE COVERED

List of Topics	No. of Weeks	Contact Hours
Functions	2	6 hours
limits and continuity	2	6hours
derivatives	2	6 hours
applications of the derivative	2	6 hours
the integral	2	6 hours
inverse functions	2	6 hours
techinques of integration	2	6 hours
Final Exam	2	6 hours
Total	16	48 hours

METHODS OF ASSESSMENT

No.	Method of assessment	Week and Date	%
1	First Mid-term exam	8 th week	30
2	Homework, Quizzes, Attendance	During the Semester	20
4	Final Examination	Final Week	50
Total			100