



Math 150 Mathematics Analysis for Business

Course Description

A course designed to satisfy the requirement of those colleges or universities which require an understanding of calculus and calculus-based models and for those students who are interested in applying calculus to problems in economics, finance, production, marketing, and other business disciplines. Topics include differential and integral calculus of one variable, as well as an introduction to multivariable calculus.

Illinois Articulation Initiative (IAI) number: M1900-B

Credit and Contact Hours:

Lecture	4
Lab	0
Credit Hours	4

Prerequisites: Appropriate placement score or minimum grade “C” in MATH 131 or equivalent.

Books, Supplies, and Supplementary Materials

A. **Required Textbooks**

MyMathLab Direct Digital Access. The eText is included in MyMathLab so if you are comfortable reading the textbook on the computer, you may use the eText alone. **There is no need to purchase a physical textbook for this course; the direct digital access fee for the eText was included in your course fees. Registration instructions are posted in our iCampus/Canvas site.**

B. **Other Required Materials**

TI-83+ or TI-84+ graphing calculator

C. **Methods of Instruction:**

Lecture, Hybrid, or Online

General Education Student Learning Outcome

1. Quantitative Literacy: Students possess the ability to reason and solve quantitative problems from an array of contexts.

Course Learning Outcomes (CLOs)

1. Analyze problems using limit techniques.
2. Analyze problems using differentiation techniques
3. Analyze problems using integration techniques.
4. Analyze functions of two-variables using differentiation techniques.

Lesson Learning Outcomes (LLOs)

1. Calculate limits of functions.
2. Find average and instantaneous rates of change.
3. Use the definition of "derivative" to calculate derivatives of functions.
4. Use rules for differentiation of powers, products and quotients.
5. Find derivatives of composite functions using the chain rule and generalized power rule.

6. Determine whether a function is continuous at a specified numeric value.
7. Find relative and absolute extrema.
8. Determine concavity and points of inflection.
9. To graph functions using information from objectives 7 and 8.
10. Determine extreme values in applied problems.

11. Use the technique of implicit differentiation.
12. Solve related rate problems.
13. Graph exponential and logarithmic functions.
14. Calculate derivatives involving logarithmic and exponential functions.
15. Use the Fundamental Theorem of Calculus to calculate definite integrals.

16. Find indefinite and definite integrals using the substitution technique.
17. Calculate areas of regions using definite integrals.
18. Use the technique of integration by parts.
19. Solve basic differential equations.
20. Calculate values for functions of two variables.

21. Calculate partial derivatives.
22. Work maximum and minimum problems for functions of several variables.

Final Course Grading Scale

Grade	Percentage
A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	lower than 60%

Faculty Commitment

Faculty members are committed to providing a quality learning experience through thoughtful planning, implementation, and assessment of course activities. They are also committed to being readily available to students throughout the semester by returning e-mails and phone calls within 48 hours and to returning graded course work within a week. Furthermore, they are committed to selecting appropriate course materials and making them available in an organized and timely manner.

Student Commitment

For every credit hour a student is enrolled in, they should expect to spend at least 2 hours outside of class studying, working on assignments, and preparing for class each week of the fifteen-week semester. For example, for this four credit-hour class, students can expect to spend four hours per week in class actively engaged in learning the material by participating in face-to-face classes or viewing lectures and instructional material online. In addition, students should expect to spend another eight hours per week outside of class completing homework and assignments, posting to

discussion boards online, or studying for quizzes and tests. This means students should spend a minimum of 12 hours per week engaged in achieving the learning outcomes for this course. If you are not achieving your desired results in this class, you should consider increasing your prep time outside of class, in addition to using available resources such as instructor office hours and tutoring services.

By registering for this course, you commit yourself to active participation in course activities as well as the submission of all assignments and exams on time. Furthermore, you commit to accessing the course site and checking your JJC e-mail several times a week.