

Reedley College - Fall 2009 - Course Syllabus

Math 5B, Math Analysis II (Calculus), Section # 56051

Instructor: Mrs. Lina Obeid
Office: FEM Library
Phone: 638-3641, ext. 3184

Class Room: FEM4E

Class Time: Daily: 8:00 – 8:50 am

Office Hours: M, W, Th: 10-11am; or by apt

E-Mail: lina.obeid@reedleycollege.edu

Basic Skills Advisories: Eligibility for English 126

Subject Prerequisites: Successful completion of Math 5A

Required Texts:

- Anton, Bivens, Davis. (2009). *Calculus: Early Transcendentals Single Variable*, 9th Edition. New Jersey: Wiley.

Materials Needed:

Graph paper, binder, binder paper, ruler, pencils, erasers, stapler

Graphing calculator: preferably TI 83 or TI83plus;

Check with the instructor for the use of other calculators.

Course Description:

As stated in the Reedley College course outline, Math 5B includes applications of integration, techniques of integration, improper integrals, parametric equations, polar coordinates and functions, conic sections, exponential growth/decay models, infinite series including Maclaurin and Taylor Series.

Attendance and Tardy Policy:

- Roll is taken daily. Students are expected to attend every class, arrive on time, and stay for the entire class period. Students who are absent or late, or who leave early will receive a zero on the missed, incomplete, or late assignment. **Late work is not accepted.** Excuses are not accepted.
- If a student arrives late, it is his/her responsibility to inform the instructor after class, so the absence can be changed to a tardy. Student will not receive credit for any missed or late homework or exam. Two tardies count as an absence.
- A student may* be dropped by the instructor after 6 absences (not necessarily consecutive class periods).

* **NOTE:** If a student decides to no longer be enrolled in the class, it is the student's responsibility to ensure that he/she is officially dropped by turning in a program change form in to the Admissions office. Otherwise, the student may receive an "F".

Behavioral, Campus, and Academic Policy:

- Reedley College campus policies and academic regulations will be implemented in this class.
- Students engaging in any behavior the instructor deems disruptive may be asked to leave for the remainder of that class session. Pagers, cell-phones, CD/DVD/MP3 players, and any other electronic device must be turned off, silenced, and made invisible before entering class. [Approved calculators, and documented/required medical devices are exceptions.]
- Cell phones are NOT to be used as calculators. Students are not allowed to leave their cell phones in plain view even if set on silent. Cell phones are strictly prohibited during exams.

Grading Policy:

Students are graded in three major categories according to the following:

Homework grades constitute **15%** of the student's overall grade.

Chapter exams grades constitute **70%** of the student's overall grade.

Final Exam grade constitutes **15%** of the student's overall grade.

- **Homework:** Homework is assigned on regular basis. Homework will not be accepted late for any reason. Written problems and exercises must be worked out thoroughly, completely and neatly, otherwise the work will not receive full credit. Graphs are very important in calculus, so they need to be drawn, labeled, titled, and scaled accurately and neatly using a ruler. The two lowest homework scores will be dropped to account for emergencies.
- **Chapter Exams:** Five chapter exams will be administered throughout the semester. Each chapter exam is worth 14% of the overall grade. No make-up exam will be given for any reason, for any of the chapter exams. Students who are not present at the exam time will receive a score of ZERO** on that exam. To allow for emergencies, the lowest chapter exam score will be dropped.

** **Note carefully:** Exam dates will be announced in advance. If a student has a known **unavoidable business** on the exam date, he/she will be given the chance to take the test early (before the scheduled exam date/time) *if and only if* the student makes the appropriate arrangements with the instructor in a timely manner. Students are not allowed to take exams after the scheduled date or time for any reason.

- **The Final exam** is a mandatory comprehensive final - it might contain any of the material covered from the entire semester. The Final exam score is worth 15% of the overall grade.

The Final will be administered on Wednesday, December 16, in FEM4E, 8am to 9:50am.

The average score within each category may be calculated by adding the earned scores, then dividing them by the sum of the possible scores. The following formula is used to determine the overall grade:

Student's overall grade = (Homework average)(0.15) + (Exam average)(0.70) + (Final Grade)(0.15)

If students need further clarification regarding grades, they are welcome to consult the instructor.

Plagiarism: Reedley College rules on plagiarism will be enforced. Students cheating and students allowing others to cheat off of their assignment will receive a 0% on that assignment (whether it is an exam, a final exam, or any other assignment).

Grading Scale:

Grade	Percent
A	= 90% - 100%
B	= 80% - 89%
C	= 70% - 79%
D	= 60% - 69%
F	= Below 60%

► Accommodations for students with disabilities:

- If you have a verified need for an academic accommodation or materials in alternate media (i.e., Braille, large print, electronic test, etc.) per the Americans with Disabilities Act (ADA) or Section 504 of the Rehabilitation Act, please contact me as soon as possible.

Tips for Success:

- **FORM A STUDY GROUP!**
- Come to class prepared and on time;
- Attend regularly;
- **Do not procrastinate;**
- Turn in well thought-out assignments on time with all the work shown step-by-step;
- Put in the maximum effort daily in every aspect of your work;
- Ask the instructor and students for help;
- **Attend MATH CENTER and tutorial center for additional help;**
- Do not wait until you are failing or you are completely lost to ask questions.
- **READ THE SECTIONS PRIOR TO ATTENDING THE LECTURE.**

► Important Dates: FALL 2009

August 17 (M)	Start of Fall semester
August 28 (F)	Last day to drop a full-term class for a refund
September 4 (F)	Last day to register for a full-term fall class
September 4 (F)	Last day to drop a fall full-term class to avoid a “W”
September 7 (M)	Labor Day (no classes held, campus closed)
September 18 (F)	Last day to change a fall class to/from a Pass/No-Pass grading basis
October 16 (F)	Last day to drop a full-term class (letter grades assigned after this date)
November 11 (W)	Veterans Day (no classes held, campus is open)
November 26-27 (Th-F)	Thanksgiving holidays
December 16	The Final will be administered on Wednesday, December 16, in FEM4E, 8am to 9:50am.
December 14-18 (M-F)	Final exams week
December 18 (F)	End of Fall semester
December 21 - January 8	Winter Break

COURSE OUTCOMES:

Upon completion of this course, students will be able to:

- A. Determine the area between two curves.
- B. Determine the volume of solids of revolution using the disk, washer, and shell methods.
- C. Solve application problems involving force, pressure and work.
- D. Integrate functions using the techniques of integration by parts, trig integrals, trig substitution, partial fraction decomposition, and tables.
- E. Define and analyze functions given in parametric and polar forms.
- F. Graph and analyze conic sections.
- G. Mathematically model simple exponential growth and decay problems.
- H. Derive Taylor and Maclaurin polynomials.

COURSE OBJECTIVES:

In the process of completing this course, students will:

- A. Determine the area between two curves in the coordinate plane.
- B. Determine the volumes of solids of revolution using the disk and shell methods.
- C. Determine the length of a curve in the coordinate plane.
- D. Solve application problems involving force, pressure, and work.
- E. Evaluate and use hyperbolic functions.
- F. Use the technique of integration by parts to evaluate definite and indefinite integrals.
- G. Evaluate definite and indefinite integrals involving combinations of trigonometric functions.
- H. Use the technique of trig substitution to evaluate definite and indefinite integrals.
- I. Use the technique of integration by partial fraction decomposition to evaluate definite and indefinite integrals.
- J. Learn to use integral tables to evaluate definite and indefinite integrals.
- K. Apply Simpson's Rule to numerically evaluate integrals.
- L. Evaluate improper integrals.
- M. Use, differentiate, and integrate parametrically defined functions.
- N. Use polar coordinates to define and analyze polar functions.
- O. Derive the equations for and graph conic sections.
- P. Investigate the behavior of exponential functions.
- Q. Mathematically model exponential growth and decay phenomena.
- R. Investigate the behavior of sequences and series.
- S. Judge convergence or divergence by apply appropriate tests.
- T. Apply convergence tests including the Comparison, Ratio, and Root Tests.
- U. Derive and use Maclaurin and Taylor Series.
- V. Derive and use power series.
- W. Investigate the convergence of Taylor Series and use the Remainder Theorem.

COURSE CONTENT OUTLINE:

- I Applications of the Definite Integral
 - Area between two curves
 - Volumes by disk and washer methods
 - Volumes by shell method
 - Length of a plane curve
 - Work, Pressure and Force
 - 1. Hyperbolic Functions
- II Techniques of Integral Evaluation
 - Integration by parts
 - Trigonometric Integrals
 - Trigonometric substitution
 - Partial fractions
 - Using tables of integrals
 - Simpson's Rule
 - Improper Integrals
- III Analytic Geometry
 - Parametric equations
 - Polar coordinates and equations
 - Parabolas
 - Ellipses
 - Hyperbolas
 - Differentiation/Integration of parametric curves.
- IV Exponential Growth and Decay Applications
 - Exponential functions
 - Modeling physical phenomena with differential equations
- V Infinite Series
 - Sequences
 - Infinite Series
 - Convergence Tests
 - Taylor and Maclaurin Series
 - Comparison, Ratio and Root Tests
 - Alternating series and conditional convergence
 - Power Series
 - Differentiation/Integration of power series.
 - 8. Convergence of Taylor Series

➤ *The instructor reserves the right to make minor changes to the syllabus.*