Revised Spring 2008

ARAPAHOE COMMUNITY COLLEGE SYLLABUS

Course Number: MAT 202 **Title:** Calculus II **Credits:** 5

Instructor:
Phone:
E-mail:
Office Location (if applicable):
Office Hours (if applicable):

Important Dates:
Last day to drop with refund (include date):
Last day to withdraw without refund (include date):

Catalog Description:
Continuation of single variable calculus which will include techniques of integration, polar coordinates, analytic geometry, improper integrals, and infinite series.

This course is one of the **Statewide Guaranteed Transfer** courses. GT-MA1

Prerequisite: MAT 201 (Calculus I) or permission of instructor

Text: *Calculus, Early Transcendental Functions*, 4th ed., Larson, Hostetler, Edwards, Houghton Mifflin Company © 2007.

Required Course Material: Text, graph paper, and TI-86 or TI-89 graphing calculator.

Optional Course Material: Student Solutions Manual and Student Study Guide. DVD's are available in the Math Support Room (M3610).

Grading Criteria:

Makeup Policy:

Attendance Policy:

Student Success Center for all ACC students: Peer and professional tutoring in Room M2720 now includes student tutors, math support, and the Writing Center in one location to provide academic assistance for all your classes.

ACC math instructors provide help with concepts, homework, online resources and graphing calculator workshops. Students may watch course related videos and DVDs in the library. For information, contact the Student Success Center at 303-797-5669 or email Mathhelp@arapahoe.edu

Arapahoe Community College provides accommodations to qualified students with disabilities. To request accommodation, contact Disability Services in M2710 or call (303) 797-5937 v/tty.

Academic Honesty Statement

Arapahoe Community College is committed to academic honesty and scholarly integrity. The College can best function and accomplish its mission in an atmosphere of the highest ethical standards.

All members of the College community are expected and encouraged to contribute to such an environment by observing all accepted principles of academic honesty.

Academic dishonesty includes but is not limited to: plagiarism, cheating, fabrication, grade tampering, misuse of computers and other electronic technology, and facilitating academic dishonesty. Those found in violation may also be subject to potential disciplinary sanctions under the

Arapahoe Community College Code of Conduct. OR "Those found in violation of academic honesty will be subject to the following disciplinary actions: _(teacher discretion)_____."

The safety and security of all our students, faculty, staff and visitors is of the utmost importance to the Campus Police Department. We rely on each of you to be an additional set of ears and eyes to help maintain campus safety. Please be diligent in your efforts to report suspicious or unusual behavior or circumstances to the Campus Police Department. Trust your instincts when something doesn't look, seem or feel right and tell someone. The Campus Police can be reached at 303-797-5800 or in M2600 on the second floor behind Information Central. Additional safety information can be found on the website at htttp//www.arapahoe.edu/studentsvcs/campuspolice/index.html

Contact Information for Learning Support Services

Library	**M2500 303-797-5090**
Technical Support	**797-5700 x3199**
Writing Center	**M2855 303-797-5830**
Advising/Counseling	**M2010 303-797-5651**
Instructional Testing Center	**M2280 303-797-5993**
Bookstore	**M1200 303-797-5676**
Computer Lab	**M1650 303-797-5907**
Tutorial Services	**M2710** 303.797.5669
Career Center	**M2025 303-797-5805**
eLearning	**303-797-5700 x6700**

Course Content:

6. Differential Equations

6.1 Slope Fields and Euler's Method
6.4 Differential Equations: Growth and Decay
6.5 Differential Equations: Separation of Variables
6.4 The Logistic Equation
6.5 First-Order Linear Differential Equations
6.6 Predator-Prey Differential Equations (optional)

8. Integration Techniques, L'Hôpital's Rule, and Improper Integrals

8.1 Basic Integration Rules
8.2 Integration by Parts
8.3 Trigonometric Integrals
8.4 Trigonometric Substitution
8.5 Partial Fractions
8.6 Integration by Tables and Other Integration Techniques
8.7 Indeterminate Forms and L'Hôpital's Rule
8.8 Improper Integrals

9. Infinite Series

9.1 Sequences
9.2 Series and Convergence
9.3 The Integral Test and *p*-Series
9.4 Comparisons of Series
9.5 Alternating Series
9.6 The Ratio and Root Tests
9.7 Taylor Polynomials and Approximations
9.8 Power Series
9.9 Representation of Functions by Power Series
9.10 Taylor and Maclaurin Series

10. Conics, Parametric Equations, and Polar Coordinates

10.1 Conics and Calculus
10.2 Plane Curves and Parametric Equations
10.3 Parametric Equations and Calculus
10.4 Polar Coordinates and Polar Graphs
10.5 Area and Arc Length in Polar Coordinates
10.6 Polar Equations of Conics and Kepler's Laws