MATH 8B Course Outline as of Fall 1999

CATALOG INFORMATION

Dept and Nbr: MATH 8B   Title: BRIEF CALCULUS II
Full Title: Brief Calculus II
Last Reviewed: 3/29/2010

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	3.00	17.5	Lecture Scheduled	52.50
Minimum	3.00	Lab Scheduled	0	17.5	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	3.00		Contact Total	52.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 105.00   Total Student Learning Hours: 157.50

Title 5 Category: AA Degree Applicable
Grading: Grade Only
Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:
Formerly:

Catalog Description:
Continuation of Math 8A. Probability and calculus; differential equations; partial derivatives; maximization with constraints; double integrals; applications; series and Taylor polynomials. Students will not receive credit for both Math 8B and Math 1B.

Prerequisites/Corequisites:
Math 8A.

Recommended Preparation:

Limits on Enrollment:

Schedule of Classes Information:
Description: Continuation of Math 8A. Calculus of the trigonometric functions: probability and calculus, differential equations, partial derivatives, maximization with constraints, double integrals, application, series, Taylor polynomials. (Grade Only)
Prerequisites/Corequisites: Math 8A.
Recommended:
Limits on Enrollment:

Transfer Credit: CSU;UC. (CAN MATH32)(MATH 8A+MATH 8B=MATH SEQ D)
Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	**Area**		Effective:	Inactive:
	B	Communication and Analytical Thinking	Spring 1992	Fall 2013
	MC	Math Competency		
CSU GE:	**Transfer Area**		Effective:	Inactive:
	B4	Math/Quantitative Reasoning	Fall 1992	Fall 2013
IGETC:	**Transfer Area**		Effective:	Inactive:
	2A	Mathematical Concepts & Quantitative Reasoning	Spring 2007	Fall 2013

CSU Transfer:	Transferable	Effective:	Spring 1992	Inactive:	Fall 2013
UC Transfer:	Transferable	Effective:	Spring 1992	Inactive:	Fall 2013

CID:

Certificate/Major Applicable:
Not Certificate/Major Applicable

COURSE CONTENT

Outcomes and Objectives:
To be successful, students should be able to:
1. Apply methods of integration, including integraton by parts, partial fractions, and use of tables or a computer algebra system.
2. Use numerical integration to approximate definite integrals.
3. Solve elementary differential equations, including separable and linear differential equations.
4. Determine partial derivatives of multivariable functions.
5. Apply convergence tests to series with constant terms.
6. Compute and use Taylor polynomials and Taylor series for elementary functions.
6. Apply integration and differentiation concepts to variance and probability density functions.

Topics and Scope:

Descrete Topics
    Sequences, Sigma notation, Binomial Theorem, Factorial notation, Combination notation, Pascal's Triangle.
Calculus and Probability
    Discrete and continuous random variables; variance and probability density functions.
Multivariable Calculus
    Analytic geometry in 3-D; functions of several variables; partial differentiation; constrained optimization; double integrals.

Sequences and Series
    Convergence, p-series; ratio test; power series and Taylor's theorem
    Taylor polynomials; Newton's method.
Differential Equations
    Solutions to differential equations; separation of variables;
    first-order linear differential equations; applications.

Assignment:

1. The student will have daily outside reading, problem set assignments
    from required text (s), or instructor chosen supplementary materials.
2. Instructional methodology may include, but is not limited to:
    lecture, demonstrations, oral recitation, discussion, supervised
    practice, independent study, outside project or other assignments.

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills
and/or require students to select, organize and explain ideas
in writing.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments and skill demonstrations are more appropriate for this course.	Writing 0 - 0%

Problem Solving: Assessment tools, other than exams, that
demonstrate competence in computational or non-
computational problem solving skills.

Homework problems, Exams	Problem solving 25 - 50%

Skill Demonstrations: All skill-based and physical
demonstrations used for assessment purposes including skill
performance exams.

Performance exams	Skill Demonstrations 30 - 70%

Exams: All forms of formal testing, other than skill
performance exams.

Multiple choice	Exams 5 - 25%

Other: Includes any assessment tools that do not logically
fit into the above categories.

WRITING ASSIGNMENTS	Other Category 0 - 10%

Representative Textbooks and Materials:
Text (s) required of each student will be selected by the department,
a committee of the department, or the responsible instructor from the

books currently available. Among the choices could be:
BRIEF CALCULUS WITH APPLICATIONS, 6th Ed. Larson/Hostetler, Heath, 1998
Calculus with Applications and Sequences and Series, 6th Edition
by Lial/Miller/Greenwell, Harper Collins, 1998.