

**YUBA COMMUNITY COLLEGE DISTRICT
COURSE OUTLINE**

STATIC ID #

DATE EFFECTIVE: SPRING,
2005

DEPARTMENT MATH **No.** 1B
TITLE: FIRST YEAR CACULUS

DIVISION ATMESH **TOTAL HOURS** 72 **LECTURE** 72
LAB 0 **UNITS** 4

ABBREVIATED TITLE (MAX. OF 20 INCL. SPACES)
FIRST YEAR CALCULUS

IS COURSE CROSS LISTED: YES NO IF YES, DEPARTMENT(S) & #(S):

NEW COURSE **REVISED COURSE** **TECHNICAL REVISION**
DISTRIBUTIVE ED.

(IF NEW COURSE, COMPLETE NEW COURSE ADDENDUM) (IF ON-LINE/ITV, COMPLETE ON-LINE/ITV
ADDENDUM)

(IF REVISED COURSE, ANNOTATE SECTION):

DEGREE CREDIT **NON-DEGREE** **NON-CREDIT** **GRADING METHOD:**
LETTER **CR/NC**

ARTICULATION: This course is intended to be (respond to all that apply):

A. General education at: CSU UC Yuba (petition filed?)

B. Transferable to: CSU UC Other

C. Required in transfer major Yes [X] No [] If yes, in what major? Mathematics,
Engineering, Science

To what school? All, CSU, Sacramento _____;

What is the title of that school's equivalent course? Calculus (2nd Semester)

CSU, Sacramento –

Math 31

APPROVALS: The following signatures are required:

[] California Education Code (Title V) Requirements are Met by Course

[] I have contacted full-time faculty in the discipline and the Instructional Deans at the Lake, Marysville, and Woodland Campuses to inform them of course development/revision.

Signatures (Signed/Printed):

For Office Use

Data Entry By _____

YCCD Equate Code _____

TOPS CODE _____

SAM CODE _____

Crs. Classification _____

Transfer Code _____

UC Trnsfr Code(s) _____

Unit Limitation _____

CSU Trnsfr Code(s) _____

Course CAN Code _____

Author: _____ / _____ Date: _____

Dean: _____ / _____ Date: _____

Articulation Officer's Recommendation: _____

Articulation: _____ / _____ Date: _____

VPI: _____ / _____ Date: _____

Curriculum Co-chairs: _____

_____ / _____ Date: _____

_____ / _____ Date: _____

Board Approval Date: _____

Date of Revision/Review: _____

**YUBA COMMUNITY COLLEGE DISTRICT
COURSE OUTLINE**

DEPARTMENT: Math **COURSE**
NUMBER: 1B

TITLE: First Year Calculus **UNITS:** 4 **CAN**
NUMBER: Math 20

TOTAL COURSE HOURS: 72 **LECTURE HOURS:** 72
LAB HOURS: 0

COREQUISITE(S): None

PREREQUISITE(S): Math 1A

PREREQUISITE REVISION: Is there a significant change in the prerequisite? Yes []
No [X]
If yes, validate with a new prerequisite content review summary form. Attach to course outline.

RECOMMENDATION(S):
Language [X] Mathematics [X] Other []

I. CATALOG/CLASS SCHEDULE DESCRIPTION

A continuation of Math 1A including transcendental functions, techniques of integration, indeterminate forms, improper integrals, sequences and series, and numerical methods. (CAN Math 20) (LM)

COURSE CONTENT

A. Course Purpose

To extend techniques of differentiation and integration to transcendental functions.
To introduce students to sequences, series, and numerical methods

B. Course Objectives

At the conclusion of this course, the student will be able to:
Apply Calculus to exponential, logarithm, inverse trigonometric, and hyperbolic functions.
Use integration by parts, inverse trigonometric substitution, rational substitutions and partial fractions to integrate.
Recognize and evaluate improper integrals.
Recognize indeterminate forms and apply L'Hopital's Rule when appropriate.

Apply convergence tests to infinite series.
Represent functions with Taylor, Maclaurin, and/or power series
Use numerical methods to do numerical integration, approximate solutions to equations, and bound errors.

C. Course Topical Outline

Exponential and Logarithm Functions
Inverse trigonometric and hyperbolic functions
Techniques of Integration
L'Hopital's Rule
Improper Integrals
Sequences
Series and convergent tests
Taylor, Maclaurin, and Power series
Numerical methods, approximations

D. Critical Thinking

Activities that require critical thinking include:
Using techniques of integration to integrate, evaluating improper integrals, applying tests for convergence, using L'Hopital's Rule.

III. GENERAL METHODS OF INSTRUCTION

Please indicate all appropriate methods of instruction

Lecture
Lecture/Discussion

IV. METHODS OF ASSESSMENT

Please indicate all methods of assessment

Objective tests
Quizzes
Written Homework

V. MATERIALS OF INSTRUCTION

Textbook(s)

Varberg & Purcell, Calculus with Analytical Geometry, Prentice-Hall, 8th edition
(Chapters 7 through 11)

B. Other Material (if applicable)

VI. ASSIGNMENTS

Degree Applicable Course:

A. Reading Assignments

Readings from textbook

B. Writing Assignments

Written homework assignments

C. Outside Assignments

Reading from textbook

Written homework assignments

VII. APPROPRIATENESS TO COLLEGE MISSION (*Check all that apply*):

Lower Division Degree Credit

Community Interest

Occupational Preparation

Upgrade of Skills

Transfer Course

Remedial

Revised & Classified (Show the semester this outline will be implemented.) Fall 2004

**Yuba Community College District
Distributive Education Addendum**

Course Dept/Number: _____ **Course Title:**

Telelecture Online Telepackage Enhanced
Telepackage

Course Content and Evaluation

The following will be utilized to replace the traditional face-to-face instruction. For

instance, a three-unit lecture class meets students three hours per week. Check the appropriate areas that are comparable.

- | | | |
|---|---|-----------------------------------|
| <input type="checkbox"/> E-mail searches | <input type="checkbox"/> Calendar | <input type="checkbox"/> Web- |
| <input type="checkbox"/> Quizzes | <input type="checkbox"/> Bulletin Board | <input type="checkbox"/> Chat |
| <input type="checkbox"/> Assignments Lectures | <input type="checkbox"/> Reading Lectures | <input type="checkbox"/> Watching |
| <input type="checkbox"/> Web-browsing | <input type="checkbox"/> Textbook | |

How will On-Line and ITV techniques be used to accomplish the grading method indicated in the course outline.

Student-Instructor Contact

What methods will the instructor use to keep in contact with students?

- | | | |
|---------------------------------|---|------------------------------------|
| <input type="checkbox"/> E-mail | <input type="checkbox"/> Message/Bulletin Board | <input type="checkbox"/> Telephone |
| <input type="checkbox"/> Mail | <input type="checkbox"/> Other | |

How will students with disabilities be accommodated?

Both state and federal law require community colleges to operate all programs and activities in a manner, which is accessible to students with disabilities. Accordingly, as the Yuba Community College District develops its capacity for creation of technology based instructional resources and the delivery of distance education, it must proceed with the needs of all students in mind, including the unique needs of students with disabilities.

Title 5, Code of Regulations, Section 55370 et seq. expressly states that the Requirements of the Americans with Disabilities Act are applicable to Distance Education courses. Accordingly, as the Yuba Community College District develops its capacity for creation of technology base instructional resources and the delivery of distance education; it must proceed with the needs of all students in mind, including unique needs of students with disabilities.

How will students have access to course materials?

**Yuba Community College District
New Course Addendum**

Course Dept/Number: _____ **Course Title:**

SITE OF ORIGIN: MARYSVILLE [] WOODLAND [] LAKE [] DISTRICT []

1. For what student population is this course intended?

2. What is the justification for adding this course?

3. Are there existing courses with similar content? Yes [] No []

If yes, list the courses considered and answer the questions below:

- a. Why are they not suitable for the content of this course?

- b. How might they be affected by offering this course?

What new or additional facilities, equipment, staffing or other non-budgeted items will be required to teach the course? How will they be provided?

What new or additional library, media and other district resources will be needed to offer the course?

If this course is started from grant funding, how will it be continued thereafter?

