



REQUEST FOR INSTRUCTIONAL MATERIAL ADOPTION AND EVALUATION REPORT **High School**

High School Site	Signature - Principal or Academic AP Designee	Signature - Teacher Leader (enter N/A if no Teacher Leader)	Comments:
American Canyon HS	Theo Dykzeul	Ron Eick	
Napa HS	Kate Gauger	Sean Gregory	
Napa Valley Independent Studies	Susan Wilson	NA	
New Tech HS	Riley Johnson	Jon Southam	
Valley Oak HS	Maria Cisneros	Rafael Garcia Avila	
Vintage HS	Katelyn Estudillo	Brandon DeJesus	

Request submitted by:	Annie Petrie	School Site:	NVUSD Instructional Services
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Executive Director, Secondary Education: _____

Please review below submission and sign above if you approve or write reason in comment area if you do not.

- NOTE:**
- Approved core materials must be agreed on and used by all high school campuses as the main resource. Approved non-core and supplemental materials must be agreed on by all high schools, but may be used by individual sites to supplement and not "supplant" the core. (core = English, health, mathematics, physical education, sciences, social sciences, and world languages)
 - Since NVUSD has moved toward digital usage, we strongly encourage the review and recommendation of new instructional programs that offer online student textbooks and resources rather than printed materials.

[Instructional Material Information Cover Sheet](#)

COURSE NAME & NUMBER: Calculus 1 & 2 CC401 DEPARTMENT: Math

TITLE OF TEXT: Calculus Early Trancendentals GRADE(S): 11-12

Check one: Basic: X Supplementary: _____ Check one: Hardcover: _____ Soft cover: _____ Paperback: _____

AUTHOR: James Stewart PUBLISHER: Cengage Learning

COPYRIGHT DATE: _____ ISBN#: _____ COST: \$134.00

There are definite criteria to be considered when analyzing and evaluating a prospective text or supplemental instructional material. Give each of the following items listed a rating of 1 (poor) 2 (good) 3 (very good) 4 (the best we have seen).

___3___ 1. Are the objectives clearly stated?

___3___ 2. Do the assessments included, either at the end of a chapter or unit, exactly match the stated objectives?

___4___ 3. Do the objectives for student learning match the outcomes/objectives from the State Framework and Model Curriculum Standards in your content area? If less than a 4, please indicate areas of strength and weakness (be specific). _____

___4___ 4. Do the teaching suggestions and resources suggested by the teacher's edition match the instructional suggestions of the California State Framework and Model Curriculum Standards in your content area? If less than a 4, please indicate areas of strength and weakness (be specific). _____

___3___ 5. Are the teaching suggestions, supplementary materials, etc, valuable?

___4___ 6. In your opinion, will students be able to read this book? Yes ☒ No ☐ If no, what adjustments in teaching strategies are necessary to insure student success? _____

___4___ 7. Is the organization of the text suited to learning and teaching?

___3___ 8. Are the narrative quality and teaching aids provided interesting enough to engage students?

___4___ 9. Are the illustrations in keeping with the times?

___4___ 10. Does the content of this text allow compliance with [NVUSD Board of Education Policy 6144](#) regarding controversial issues and prohibited instruction.

Use this space to compare the development of one important concept in this textbook with the development of the same concept in current textbook:

This is a new course. No previous text.

<u>Concept</u>	<u>Development in Current Text</u>	<u>Development in Recommended Text (including alignment to Common Core standards)</u>

ADDITIONAL COMMENTS:

COMPUTER TITLE: H C O L L E G E C A L C 1

COURSE TITLE: H College Calculus 1
COURSE NUMBER: CC401 [NVC Math 120]
GRADE LEVEL: 11 – 12
LENGTH OF COURSE: 1 College Semester (1 year)
GRAD REQUIREMENT: Mathematics (H)
CSU/UC REQUIREMENT: "C" (Mathematics)
VOCATIONAL ED: No
CBEDS NUMBER: 2490 (Dual Enrollment College Course – Mathematics)
NCLB: Yes
NCLB CORE SUBJECT: MT
APPROVAL DATE:

Course Outline Information

1. Student Learning Outcomes:

- A. Compute derivatives of elementary functions and their algebraic combinations.
- B. Solve applications involving derivatives.
- C. Evaluate definite and indefinite integrals using the Fundamental Theorem of Calculus.

2. Course Objectives: Upon completion of this course, the student will be able to:

- A. Compute the limit of a function at a real number;
- B. Determine if a function is continuous at a real number;
- C. Find the derivative of a function as a limit;
- D. Find the equation of a tangent line to a function;
- E. Compute derivatives using differentiation formulas;
- F. Use differentiation to solve applications such as related rate problems and optimization problems;
- G. Use implicit differentiation; H. Graph functions using methods of calculus;
- I. Evaluate a definite integral as a limit;
- J. Evaluate integrals using the Fundamental Theorem of Calculus;
- K. Apply integration to find area.

3. Course Content

- 1) Definition and computation of limits using numerical, graphical, and algebraic approaches;
- 2) Continuity and differentiability of functions;
- 3) Derivative as a limit;
- 4) Interpretation of the derivative as: slope of tangent line, a rate of change;
- 5) Differentiation formulas: constants, power rule, product rule, quotient rule and chain rule;
- 6) Derivatives of transcendental functions such as trigonometric, exponential or logarithmic;
- 7) Implicit differentiation with applications, and differentiation of inverse functions;
- 8) Higher-order derivatives;
- 9) Graphing functions using first and second derivatives, concavity and asymptotes;
- 10) Maximum and minimum values, and optimization;
- 11) Mean Value Theorem;
- 12) Antiderivatives and indefinite integrals;
- 13) Area under a curve;
- 14) Definite integral; Riemann sum;
- 15) Properties of the integral;
- 16) Fundamental Theorem of Calculus;
- 17) Integration by substitution;
- 18) Indeterminate forms and L'Hopital's Rule;

4. Methods of Instruction:

Discussion Lecture In-class practice problems

5. Methods of Evaluation: Describe the general types of evaluations for this course and provide at least two, specific examples.

Typical classroom assessment techniques

Exams/Tests -- Home Work -- Final Exam --

Additional assessment information:

Examples:

- 1) An exam including differentiation where the student would be expected to calculate derivatives using a variety of techniques (power rule, product rule, quotient rule, and the chain rule).
- 2) An exam including integration where the student would be expected to find antiderivatives for a variety of functions using manipulation and u-substitutions and calculate definite integrals using area of rectangles and the Fundamental Theorem of Calculus.

6. Minimal Percentage for Passing: 60%

Letter Grade Only

7. Assignments: State the general types of assignments for this course under the following categories and provide at least two specific examples for each section.

A. Reading Assignments

Read sections from the text, for example:

1. Read the section on the chain rule for derivatives
2. Read the section on the Mean Value Theorem

B. Writing Assignments

Daily homework will be completed from the text, for example:

1. Find the largest open-top box that can be constructed with 200 square feet of cardboard.
2. Find the area under $f(x) = x$ between $x = 0$ and $x = 1$ as the limit of a sum.

C. Other Assignments

Other assignments such as research into applications or group projects assigned at instructors' discretion.

Instructional Materials

Title: **Calculus Early Transcendentals**

Author: **James Stewart**

Publisher: **Cengage**

Other materials and/or supplies required of students.

- Graphical calculator is required.

COMPUTER TITLE: H C O L L E G E C A L C 2

COURSE TITLE: H College Calculus 2
COURSE NUMBER: CC401 [NVC Math 121]
GRADE LEVEL: 11 – 12
LENGTH OF COURSE: 1 College Semester (1 year)
GRAD REQUIREMENT: Mathematics (H)
CSU/UC REQUIREMENT: "c" (Mathematics)
VOCATIONAL ED: No
CBEDS NUMBER: 2490 (Dual Enrollment College Course –
Mathematics)
NCLB: Yes
NCLB CORE SUBJECT: MT
APPROVAL DATE:

1. Student Learning Outcomes:

- A. Evaluate definite and indefinite integrals.
- B. Solve applications involving integrals.
- C. Find and apply Taylor and Maclaurin series.

2. Course Objectives: Upon completion of this course, the student will be able to:

- A. Evaluate definite and indefinite integrals using a variety of integration formulas and techniques;
- B. Apply integration to areas and volumes, and other applications such as work or length of a curve;
- C. Evaluate improper integrals;
- D. Apply convergence tests to sequences and series;
- E. Represent functions as power series;
- F. Graph, differentiate and integrate functions in polar and parametric form.

3. Course Content

- 1) Areas between curves;
- 2) Volume, volume of a solid of revolution;
- 3) Additional techniques of integration including integration by parts and trigonometric substitution;
- 4) Numerical integration; trapezoidal and Simpson's rule;
- 5) Improper integrals;
- 6) Applications of integration to areas and volumes;
- 7) Additional applications such as work, arc length, area of a surface of revolution, moments and centers of mass, separable differential equations, growth and decay;
- 8) Introduction to sequences and series;
- 9) Multiple tests for convergence of sequences and series;
- 10) Power series, radius of convergence, interval of convergence;
- 11) Differentiation and integration of power series;
- 12) Taylor series expansion of functions;
- 13) Parametric equations and calculus with parametric curves; and
- 14) Polar curves and calculus in polar coordinates;

4. Methods of Instruction:

Discussion Lecture In-class practice problems.

5. Methods of Evaluation:

Describe the general types of evaluations for this course and provide at least two, specific examples.

Typical classroom assessment techniques

Exams/Tests -- Quizzes -- Home Work --

Final Exam -- Additional assessment

information:

Examples:

1) An exam including integration techniques where the student would be expected to find antiderivatives for functions using a variety of techniques (integration by parts, trigonometric integrals, trigonometric substitution, and integration using partial fraction decomposition).

2) An exam including series and sequences where the student would be expected to determine whether sequences and series converge or diverge using a variety of different techniques (geometric series, divergence test, p-series, integral test, comparison test, limit comparison test, ratio test, root test, and alternating series test).

6. Minimal Percentage for Passing: 60

Letter Grade Only

7. Assignments:

State the general types of assignments for this course under the following categories and provide at least two specific examples for each section.

A. Reading Assignments

Read sections from the textbook, for example:

1. Read section on arc length
2. Read section on improper integrals

B. Writing Assignments

Daily homework exercises from the text, for example: 1. Find the work required to pump all the water out of a cylindrical tank with height = 5 feet, radius = 2 feet. 2. Find the Maclaurin series for $f(x) = \sin(2x)$

C. Other Assignments

Other assignments such as research into applications or group projects assigned at instructors' discretion.

Instructional Materials

Title: **Calculus Early Transcendentals**

Author: **James Stewart**

Other materials and/or supplies required of students.

- Graphical calculator is required.