# Faculty Review of Open eTextbooks

The California Open Educational Resources Council has designed and implemented a faculty review process of the free and open etextbooks showcased within the California Open Online Library for Education (www.cool4ed.org). Faculty from the California Community Colleges, the California State University, and the University of California were invited to review the selected free and open etextboks using a rubric. Faculty received a stipend for their efforts and funding was provided by the State of California, the William and Flora Hewlett Foundation, and the Bill and Melinda Gates Foundation.

Textbook Name:

Calculus
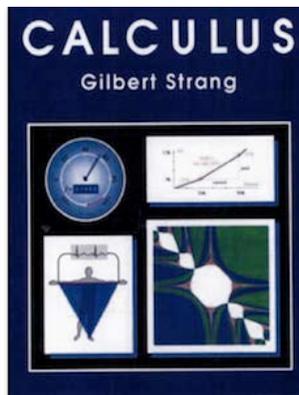
License:

Find it: eTextbook Website

Textbook Authors:

Gilbert Strang

Reviewed by:

Amy Vu

Institution:

West Valley College

Title/Position:

Professor

Format Reviewed:

Online

A small fee may be associated with various formats.

Review Summary

Category	Score
Subject Matter	2.8
Instructional Design	2.1
Editorial Aspects	3.4
Usability	2.4

Scale: N/A 0 points | Very weak 1 point | Limited 2 points | Adequate 3 points | Strong 4 points | Superior 5 points

Date Reviewed:

August 2015
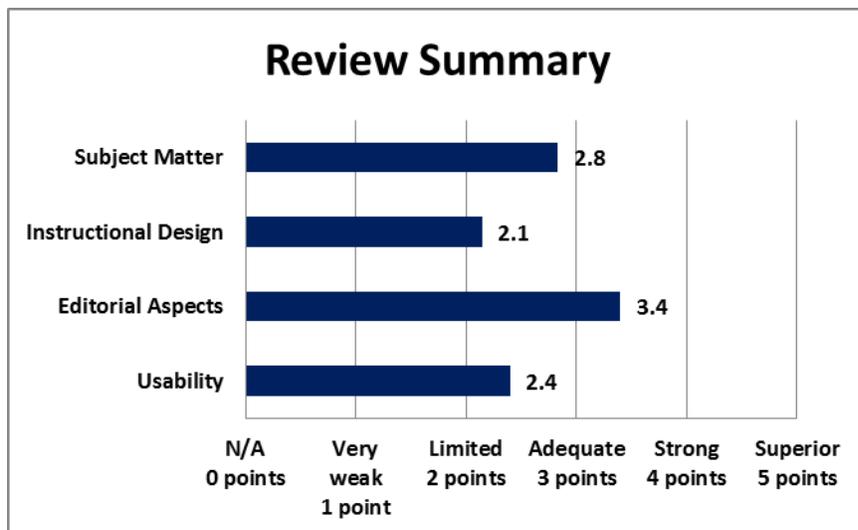
California OER Council eTextbook Evaluation Rubric

CA Course ID: MATH 210

Subject Matter (30 possible points)	N/A (0 pts)	Very Weak (1pt)	Limited (2 pts)	Adequate (3pts)	Strong (4 pts)	Superior (5 pts)
Is the content accurate, error-free, and unbiased?					X	
Does the text adequately cover the designated course with a sufficient degree of depth and scope?					X	
Does the textbook use sufficient and relevant examples to present its subject matter?			X			

	N/A (0 pts)	Very Weak (1pt)	Limited (2 pts)	Adequate (3pts)	Strong (4 pts)	Superior (5 pts)
Does the textbook use a clear, consistent terminology to present its subject matter?					X	
Does the textbook reflect current knowledge of the subject matter?		X				
Does the textbook present its subject matter in a culturally sensitive manner? (e.g. Is the textbook free of offensive and insensitive examples? Does it include examples that are inclusive of a variety of races, ethnicities, and backgrounds?)					X	

Total Points: 17 out of 30

Please provide comments on any aspect of the subject matter of this textbook:

- This textbook was published in 1991. It does not match up with the course outline for a first-semester calculus class. The discussion on limits is weak.

- The examples and exercises are outdated. There are exercises involving BASIC and FORTRAN. Citations and data presented are from the late 1980s. Here are some quotes from the textbook to show you what I mean by outdated:
  - p. 39: "As I write in 1990, DERIVE is becoming well established for the PC. For the Macintosh, Calculus TIL is a "sleeper" that deserves to be widely known. It builds on MAPLE and is much more accessible for calculus. An important alternative is Theorist. These are menu-driven (therefore easier at the start) and not expensive."
  - p. 57 Problem 51: In the Massachusetts lottery you choose 6 numbers out of 36. What is your chance to win?

Instructional Design (35 possible points)	N/A (0 pts)	Very Weak (1pt)	Limited (2 pts)	Adequate (3pts)	Strong (4 pts)	Superior (5 pts)
Does the textbook present its subject materials at appropriate reading levels for undergrad use?			X			
Does the textbook reflect a consideration of different learning styles? (e.g. visual, textual?)			X			
Does the textbook present explicit learning outcomes aligned with the course and curriculum?		X				
Is a coherent organization of the textbook evident to the reader/student?				X		
Does the textbook reflect best practices in the instruction of the designated course?		X				
Does the textbook contain sufficient effective ancillary materials? (e.g. test banks, individual and/or group activities or exercises, pedagogical apparatus, etc.)				X		
Is the textbook searchable?				X		

Total Points: 15 out of 35

Please provide comments on any aspect of the instructional design of this textbook:

- This is an outdated textbook. It was written in 1991. There has been a shift in the way calculus is taught since then. The author does not talk about limits much. It is only introduced in Chapter 2 when he defines the derivative. After discussing the derivative of power, polynomial, and the sine and cosine function, the formal definition of a limit is presented, followed by the definition of continuity.

- There are no student learning outcomes. The outline of the textbook does not match the C-ID descriptor outline.

- There are exercises at the end of each section. Some of those exercises are old and should not be assigned. There is an instructor's manual, student study guide, and some videos.

Editorial Aspects (25 possible points)	N/A (0 pts)	Very Weak (1pt)	Limited (2 pts)	Adequate (3pts)	Strong (4 pts)	Superior (5 pts)
Is the language of the textbook free of grammatical, spelling, usage, and typographical errors?						X
Is the textbook written in a clear, engaging style?				X		

Question	N/A (0 pts)	Very Weak (1pt)	Limited (2 pts)	Adequate (3pts)	Strong (4 pts)	Superior (5 pts)
Does the textbook adhere to effective principles of design? (e.g. are pages latid0out and organized to be clear and visually engaging and effective? Are colors, font, and typography consistent and unified?)					X	
Does the textbook include conventional editorial features? (e.g. a table of contents, glossary, citations and further references)						X
How effective are multimedia elements of the textbook? (e.g. graphics, animations, audio)			X			

Total Points: 17 out of 25

Please provide comments on any editorial aspect of this textbook.

- The PDF is a scan of a book published by Wellesley-Cambridge Press in 1991. It is a well written book for its time. The entire text is in black-and-white. There are no animations, color graphics, or audio with the text.

- A first-year calculus student at a community college would find the writing in this textbook to be too advanced complicated. It is very focused on physics (oscillations, harmonic motion, etc.) at the beginning. Students that do not have a background in physics would be lost trying to read this textbook.

Usability (25 possible points)	N/A (0 pts)	Very Weak (1pt)	Limited (2 pts)	Adequate (3pts)	Strong (4 pts)	Superior (5 pts)
Is the textbook compatible with standard and commonly available hardware/software in college/university campus student computer labs?				X		
Is the textbook accessible in a variety of different electronic formats? (e.g. .txt, .pdf, .epub, etc.)			X			
Can the textbook be printed easily?					X	
Does the user interface implicitly inform the reader how to interact with and navigate the textbook?			X			
How easily can the textbook be annotated by students and instructors?		X				

Total Points: 12 out of 25

Please provide comments on any aspect of access concerning this textbook.

- This textbook is only available in PDF format. It is a scan of a printed copy of the textbook. As such, it does not have links or a PDF table of contents. You can only navigate by scrolling up or down or typing in a page number. This PDF document cannot be annotated without the purchase of some expensive conversion software. Even with the software, the conversion is sketchy.

Overall Ratings	Not at all (0 pts)	Very Weak (1 pt)	Limited (2 pts)	Adequate (3 pts)	Strong (4 pts)	Superior (5 pts)
What is your overall impression of the textbook?			X			
	Not at all (0 pts)	Strong reservations (1 pt)	Limited willingness (2 pts)	Willing (3 pts)	Strongly willing (4 pts)	Enthusiastically willing (5 pts)
How willing would you be to adopt this book?		X				

Total Points: 3 out of 10

Overall Comments

If you were to recommend this textbook to colleagues, what merits of the textbook would you highlight?
- This textbook is a good resource for educators.

What areas of this textbook require improvement in order for it to be used in your courses?
- The language, applications, and technology needs to be updated.
- The outline of the text needs to be revised to meet the current course outline.

We invite you to add your feedback on the textbook or the review to the textbook site in MERLOT
(Please register in MERLOT to post your feedback.)

CALIFORNIA
OER
COUNCIL
CSU + CCC + UC

For questions or more information, contact the CA Open Educational Resources Council.