

## Faculty Review of Open eTextbooks

The <u>California Open Educational Resources Council</u> has designed and implemented a faculty review process of the free and open etextbooks showcased within the California Open Online Library for Education (<u>www.cool4ed.org</u>). 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



Textbook Authors: Gilbert Strang

Reviewed by: Chandrasekharan Vanajakshi

Institution: San Jose City College

Title/Position: Professor

Format Reviewed:

### <u>Online</u>

A small fee may be associated with various formats.

Date Reviewed:

August 2015

#### California OER Council eTextbook Evaluation Rubric CA Course ID: MATH 210

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



License:

Calculus by Gilbert Strang is licensed under a <u>Creative Commons Attribution-</u> <u>NonCommercial-ShareAlike 4.0</u> International License

Find it: eTextbook Website

Does the textbook use a clear, consistent terminology to present its subject matter?			х	
Does the textbook reflect current knowledge of the subject matter?				х
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: 24 out of 30

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

- A good introduction to Calculus as a subject. Somewhat wordy later on but still gives a 'context' for why the subject is needed.
- The Read-Through questions are a great idea.
- Describing what the next [set] of problems are about ("Problems 1-4 are about numbers f and differences v.") is also a great idea. Makes the subject much more tractable and less abstract.
- The use of examples from Physics [which is one of the major fields that is basically based on calculus], is a great idea. This gives a "context" to the ideas discussed.

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					х	
appropriate reading levels for undergrad use?						
Does the textbook reflect a consideration of different				x		
learning styles? (e.g. visual, textual?)				~		
Does the textbook present explicit learning outcomes		v				
aligned with the course and curriculum?		~				
Is a coherent organization of the textbook evident to the					v	
reader/student?					^	
Does the textbook reflect best practices in the instruction					v	
of the designated course?					~	
Does the textbook contain sufficient effective ancillary						
materials? (e.g. test banks, individual and/or group		х				
activities or exercises, pedagogical apparatus, etc.)						
Is the textbook searchable?		х				

Total Points: 18 out of 35

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

- No testbanks or group activities given for any chapter.
- The textbook is not searchable in the pdf form [which was the only one available to me as a reviewer].
- The "flow" of the lecture is not presented in a pleasing way. It looks very crowded and "sandwiched" together. It is not inviting. The explanations themselves are good and engaging.

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?				х		
Is the textbook written in a clear, engaging style?					Х	
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?)		х				
Does the textbook include conventional editorial features? (e.g. a table of contents, glossary, citations and further references)		х				
How effective are multimedia elements of the textbook? (e.g. graphics, animations, audio)			x			

Please provide comments on any editorial aspect of this textbook.

- Page lay-out and organization are not clear and visually engaging.
- This book needs much better formatting more pleasing fonts and line spacing etc. Colors, font and typography are not visually attractive.
- No glossary, citations or further references.
- No animations or videos; graphics look unappealing although the graphs themselves are good.

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

Total Points: 9 out of 25

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

- No information on whether it is tied in with course management systems.
- There is a Table of Contents and, as a matter of fact, the book is divided into clusters of topics and the Table of Contents is repeated for each cluster and that is good. But, there is no navigation, no links from one part of the book to another. You cannot even click on the items in the Table of Contents and go directly to that page.
- The book was available [at least to me as a reviewer] only in pdf form.

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

Total Points: 7 out of 10

#### **Overall Comments**

If you were to recommend this textbook to colleagues, what merits of the textbook would you highlight?

- This is the only book among the three I reviewed so far that gives a context for the topics. It starts with physics examples and how we would go about solving the problem and then then ties it to how calculus helps solve the problem. Very nice! The narrative style is also funny and engaging.
- The "Read-through" problems are a great idea and would "ease" the student into the subject area and answering questions and understanding concepts step-by-step.

What areas of this textbook require improvement in order for it to be used in your courses?

• The editorial design needs to be improved enormously. The presentation, as it is, is awful and totally unappealing. The graphics too look a mess.

- Other issues are:
  - $\circ$   $\,$  No enumeration of main concepts covered in the chapter at the beginning of the chapter.
  - No summary at the end of the chapter.
  - $\circ$   $\,$  No Group Activities.
  - $\circ$   $\;$  No 'projects' relating to real-world applications.
  - $\circ$   $\;$  No animation or video clips.
  - $\circ$  No references or citations.
- These need to be incorporated or improved.

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



For questions or more information, contact the <u>CA Open Educational Resources Council</u>.



This review is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.