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:

Biology

License:

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Textbook Authors:

OpenStax College (numerous contributors)

Reviewed by:

Baldo Marinovic

Institution:

University of California, Santa Cruz

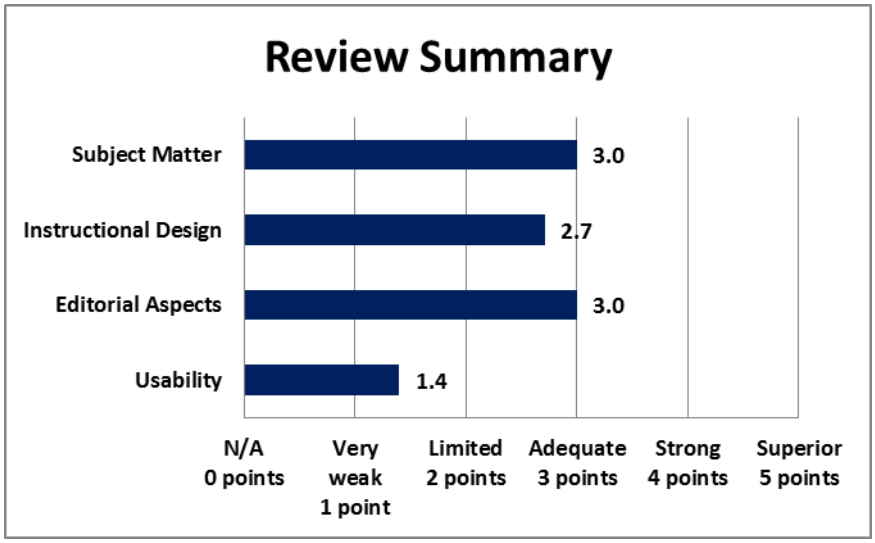
Title/Position:

Professor

Format Reviewed:

Online

A small fee may be associated with various formats.



Date Reviewed:

December 2015

California OER Council eTextbook Evaluation Rubric

CA Course ID: BIOL 130S

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		
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: 18 out of 30

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

- I limited my review of this book to chapters included in Units 4 (Evolution), 5 (Biological diversity), 7 (Animal structure and function), and 8 (Ecology) which corresponded to most of the topics included in the Organismal Biology, Ecology and Evolution course descriptor. Overall I found the text covered the material in adequate depth, though I did find several key topics to be absent entirely or discussed in insufficient depth. I have provided some specific examples below but it should be noted that these are selective.

- Unit 4 evolution:
    - Chapter 19: I found the discussion of micro-evolutionary processes to be limited in content particularly with the discussion of selection, particularly sexual selection and the omission of key concepts like the heterozygote advantage and balancing polymorphism was curious. Similarly the lack of any discussion of evolutionary-developmental biology (a key component of our current understanding of macro-evolutionary processes) is absent in both this section as well as the chapters in units 6 & 7 that relate to plant and animal development.

- Unit 5: Biological Diversity
    - I spent a fair amount of time reviewing the chapter on invertebrate diversity to determine the accuracy and thoroughness of the material covered. Overall I found the discussion to be appropriate with respect to the scope of the overall material covered but again found numerous instances where information was either lacking or incorrect. Some specific examples follow (though this is by no means a complete list)

- Chapter 28 figure 28.9 the caption states that both the picture and diagram are of a typical anemone but the picture is an anemone, diagram is a coral

- Chapter 28 figure 28.12 the first photograph in the series is labeled as the hydroid Obelia but it is actually not a hydroid but a bryozoan which is in an entirely different phylum.

- On page 799 the text describes chitinous hairlike extensions, anchored in the epidermis and projecting from the cuticle of annelids as setae/chaetae but these are distinctly different structures with the former being restricted to the ecdysozoan clade and the latter being found in annelids.

- Unit 8: Ecology
    - I found the discussion of interspecific interactions in the community ecology section to be both cursory and lacking in some key aspects. In particular the lack of any discussion pertaining to competition (other than a brief discussion of the competitive exclusion principle) to be disappointing Even more shocking was the complete lack of any discussion of the concept of a niche including the difference between an organism's fundamental and realized niche.

- While some (but not all) of these examples may be minor, the overall frequency of their occurrence suggestions that insufficient review of the information in these chapters by individuals knowledgeable in these topics had occurred.

- The text does provide reasonable levels of assessment in the form of review and critical thinking questions

but the use of the Art Connection questions both in the text and in the end in the chapter review is both redundant and awkward. In addition the placement of some of the Art connection questions in the text precedes the discussion of the material that is covered in the questions and thus makes for a confusing experience.

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: 19 out of 35

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

- While the overall language and style is appropriate, there were numerous instances where the organization of the material was confusing. For example in the Unit covering evolution, I found it curious that speciation mechanisms were discussed before microevolutionary processes, as an understanding of the latter is essential to a firm grasp of a vital component of the speciation process.

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**		
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: 15 out of 25

Please provide comments on any editorial aspect of this textbook.

- With respect to the pdf version of the text (which was the only form I reviewed) I found that for the most part the text to be adequate for a visual and functional perspective though some of the illustrations were fuzzy and hard to read and some of the multi-media links were inoperative.

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: 7 out of 25

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

- I am somewhat behind the times with respect to ebooks and readers and was limited to viewing this text

as a pdf which I downloaded so I could not asses the efficacy of navigation using alternative platforms.

- As a pdf file, it did provide basic navigation capability with the internal links found in the table of contents for more easy location of specific chapters or sub sections associated with chapters.

- In addition external links to media etc. launched effortless for the most part though some of the links were outdated.

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: 4 out of 10

Overall Comments

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

- I found the overall scope of the text to be impressive and it was relatively easy to access and use.

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

- Based on the frequency of either underdeveloped information or incorrect information, I feel that this text requires an additional round of thorough editing in a Unit and even chapter specific manner.

- With respect to using this text for and Evolution and Organismal Ecology course, I feel that it shows promise, but would like to see some of the issues discussed in my review before I would be comfortable in adopting it.

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.)

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