

Review of Biology - OpenStax (First Edition)

Date submitted
2013-08-23 14:20:45

Reviewer Information

Textbook that was reviewed
Biology
My name
Dr. Kate Pettem
My title/position
Instructor, Biology
My institution
Camosun College

Comprehensiveness

The text covers all areas and ideas of the subject appropriately and provides an effective index and/or glossary.
<ul style="list-style-type: none">• The text appears to be very comprehensive. The index at the start of the text is very useful for navigation.• The glossary appears comprehensive, however, many duplicates (ie. hydrophobic and Hydrophobic) were noted in the index. Furthermore, these duplicates appear to reference different pages.• The listing of key words with definitions at the end of each chapter is a useful feature, since students can reference key words for that specific chapter easily and quickly.• Yes it is but a lack of internal referencing is evident.
How do you rate the book's overall comprehensiveness?
4

Content Accuracy

Content, including diagrams and other supplementary material, is accurate, error-free, and unbiased.
<ul style="list-style-type: none">• Diagrams and written content both appeared to be accurate.• One exception: it appears that there is an error on page 150 in the image labeling frontal and transverse planes in the goat (at least the image doesn't seem to match the description in the text).• The reviewers did not notice any bias in the text. Any ethical issues (for example, reproductive technologies) were handled carefully but with technical accuracy.• Error page 371. Paternal leakage means that not every mitochondrial DNA is from the female.• Error p. 322 color is spelled with the American spelling.• Error p.375 I was unaware that Rosalyn Franklin was considered for the Nobel prize...should have been.• Typo in bicarbonate image in Ch.2• p.214 error (again) in the equations/arrows.
Overall, how do you rate the accuracy of the content?
4

Relevance/Longevity

Content is up-to-date, but not in a way that will quickly make the text obsolete within a short period of time. The text is written and/or arranged in such a way that necessary updates will be relatively easy and straightforward to implement.

- Content seemed very up-to-date.
- The reviewers noticed that care was taken to include recent findings (for example, neurogenesis and BrdU labeling; epigenetics; personalized medicine).
- The basics / foundations were covered in an appropriate manner so that the text will not become out of date very quickly.
- The sections on anatomy and physiology of the human body had a nice mix of explaining structures and functions, and linking these with disorders to make the content more relevant and interesting.
- I have no impression that it will be quickly out of date.

Overall, how do you rate the relevance/longevity of the book?

5

Clarity

The text is written in lucid, accessible prose, and provides adequate context for any jargon/technical terminology used.

- Text was written clearly and was fairly engaging to read. Overall text was a good mix between technical / scientific jargon and everyday language.
- Many examples and connections were included to help students stay interested (for example, links in the macromolecules section to “low carb” diets and Celiac disease).
- Learning objectives presented at the start of each section are also very useful for students to focus their reading. Learning objectives were phrased in a clear way using verbs to help students understand exactly what is expected of them.
- End of chapter questions are also a nice addition for students to practice (especially since answers are provided at end of text).
- The depth at which material is covered seems appropriate for a first year majors biology course.
- I found real problems with chapters 12-15 and 17. I found them very densely written. Concepts did not flow one into another. Lack references to previous text sections to review basic concepts, like meiosis.
- P.375 PCR is introduced before it is explained.
- P. 451 How can student “get” cDNA in one sentence?
- P.451 Probes must be explained much more completely.
- P.459 I think linkage maps belong elsewhere.
- P.464 I think a microarray image is very important here.
- I think the entire first paragraph of chapter 7 needs a do over.

Overall, how do you rate the clarity of the book?

3

Consistency

The text is internally consistent in terms of terminology and framework.

- Overall most of the text reads as if a single author were involved; no major differences in writing style were noted between chapters.
- The layout and flow of the text (intro paragraph, learning objectives, text, etc) was consistent throughout.
- I felt there were distinctly different voices and styles between the Genetic portions and the other parts.
- I don't think chapter 7 will be useful in a non-majors course build on basic concepts. Where could I direct a student without any biology background to begin?
- Chapter 7 glycolysis gives all the steps, but where is the simple overview?

How do you rate the overall consistency of the text?

3

Modularity

The text is easily and readily divisible into smaller reading sections that can be assigned at different points within the course (i.e., enormous blocks of text without subheadings should be avoided). The text should not be overly self-referential, and should be easily reorganized and realigned with various subunits of a course without presenting too much disruption to the reader.

- Use of bolded key words helps readers pick out important terms.
- The number and placement of headings and sub-headings seemed appropriate – not too many that the flow of text was disrupted, but not too few that readers would have to stretch on and on with simple text.
- Headings and subheadings are clearly labeled so sections can be found easily.
- Text didn't self-reference too much, which is very useful for classes that only cover part of the text.
- I thought this was very poor. I could not image how to part of a chapter to cover the basics of a topic. Very evident in Cellular respiration chapter
- p.401 A very odd experiment to throw in.
- Jumping to the electron transport system is an odd way to start in 7.1.

Overall, how do you rate the modularity of the text?

3

Organization/Structure/Flow

The topics in the text are presented in a logical, clear fashion.

- Overall, topics seem to flow nicely within individual chapters and also are appropriately ordered within the larger Units.
- Complex topics are built up slowly and in a logical way.
- Rather good in Chapters 1,2,16,18 and 19.
- Rather poor in 7, 12-15 and 17.

Overall, how do you rate the organization/structure/flow of the text?

3

Interface

The text is free of significant interface issues, including navigation problems, distortion of images/charts, and any other display features that may distract or confuse the reader.

- Interface is overall clearly laid out, but is not particularly engaging visually
- The margins are very large, resulting in a proportionately small text size. Images in the text also do not make a very good use of space. A two-column format may be more appropriate.
- Poor use of page space / too much white space also makes this text a poor fit for reading online, particularly on devices such as iPad, tablet, eReaders where screen size is smaller and the text /content is intended to fill the entire screen space.
- Overall figures / images were good and clearly demonstrated the concepts, although occasionally they look somewhat unprofessional when compared to other similar texts. Occasionally figures also look grainy / blurry or as if they are low-resolution images (ex. Page 149).
- The "Art Connection" headings seem unnecessary. These images are similar or complimentary to others displayed in the main text, and labeling them as "Art" seems strange.
- Would it be possible to move the image credits to an Appendix at the end of the text? They create unnecessary clutter on the page / in the figure caption.
- Use of tables was appropriate and any information in tables was presented in a clear and organized manner, without extraneous details.
- I thought many images had a random quality. For example 14.3, a dead mouse image was unhelpful in understanding this classic experiment.
- Especially in the first image for the chapter. 12.1, 15.1,16.1,17.1 all were poor choices. 18.1 too dark. 12.7 needed to show red, white and pink phenotypes.
- p.356 Where is the phenotype associated with the G/C phenotype?
- p.358 Please show the McClintock strategy as well.
- p.359 Why show a karyotype where the colours don't match up for the homologues? le #21's and #10's
- Show more water molecules in shell of hydration image fig. 2.15
- Include blood in pH figure 2.19

Overall, how do you rate the textbook's interface?
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2

Grammatical/Spelling Errors

The text contains no grammatical or spelling errors.
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| <ul style="list-style-type: none">• No grammatical errors were noted.• Exception: Noted unnecessary use of () on pg. 122 – an entire sentence was inside the parentheses. |
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How do you rate the grammar and spelling of the text?

5

Diversity and Inclusion

The text reflects diversity and inclusion regarding culture, gender, ethnicity, national origin, age, disability, sexual orientation, education, religion. It does not include insensitive or offensive language in these areas.
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| <ul style="list-style-type: none">• Content did not seem culturally insensitive or offensive.• I noticed nothing culturally insensitive. |
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Overall, how do you rate the diversity and inclusion of the text?

5

Recommendation

Do you recommend this book? If not, why?
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| <ul style="list-style-type: none">• Career Connections are great throughout, but some appear to be written from an American perspective. Special interest topics also fail to mention Canadian content (for example, laws governing reproductive technologies and “designer babies”).• Links to online content varied in quality and ability to engage students in a dynamic way. Some videos were very good and modern, while some animations seemed overly simplistic.• Nothing caught my attention regarding Canadian content. (other than the colour/color thing)• I think you need to hire someone to give the text a consistent voice and internal references. |
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