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2024

College Algebra

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OER Review: An OER – is an Open Educational Resource that allows a faculty member to deliver a course without expense to students. Please refer to the Library Guide to find OER Resources: <https://bit.ly/oersources> By adopting an OER, you could have your course identified as ZTC-Zero Textbook Cost.

Faculty Member Name: **Leslie Bain**
Department: **Mathematics/Statistics**

What OER Book are you reviewing (Title): **College Algebra**
Location/ Link where it can be found: **Open Textbook Library,**
<https://open.umn.edu/opentextbooks/textbooks/college-algebra>

Does the author have appropriate authority of standing to release a book? (Professor associated with a university etc..) **Carl Stitz, PhD is a Professor of Mathematics at Lakeland Community College and Jeff Zeager, PhD is an Associate Professor of Mathematics at Lorain County Community College**

For what course are you reviewing this book: **College Algebra MATH 1113**

What is this course's average enrollment:

Fall: **30 per section – 17 sections**

Spring: **30 per section – 9 sections**

Summer: **30 per section – 1 section**

What is the current resources used for this class and how much does it generally cost? **Online homework software (ALEKS or MyMathLab – Pearson) without textbook \$60-75, with textbook \$99-130**

What are your course objectives for this course? **The objectives of this course are to prepare students for higher level mathematics courses and to serve as the general education mathematic requirement to apply quantitative reasoning. Upon successful completion of this course, students will be able to:**

1113.1 Demonstrate understanding and knowledge of properties of functions, which include domain and range, operations, compositions and inverses.

1113.2 Recognize and differentiate characteristics of linear, absolute values, quadratic, higher-order polynomial, rational, radical, exponential, and logarithmic functions.

1113.3 Solve equations and inequalities related to linear, absolute values, quadratic, higher-order polynomial, rational, radical, exponential, and logarithmic functions.

1113.4 Use mathematical models to problem solve.

1113.5 Apply graphing techniques of transformations to common algebraic functions.

1113.6 Recognize, solve and apply systems of linear equations and matrices.

Which chapters or sections align to each course objective.

Course Objective	Section or Chapter that addresses it.
1113.1	Chapter 1, Sections 5.1-5.2
1113.2	Chapters 2,3, & 4, Sections 1.6, 5.3 & 6.1-6.2
1113.3	Chapters 2,3, & 4, Sections 5.3, 6.3-6.4 & 8.7
1113.4	Chapter 2, Sections 1.4-1.5, 4.3 & 6.5
1113.5	Section 1.7
1113.6	Chapter 8

Which Course objectives are not covered in the book.

Course Objective
None

If you were to use this book, what would be your plan to find material to meet the uncovered objectives? (One option is to find another OER to meet it. Multiple Open Educational Resources can be used for a course) **While all the course objectives were met, there may be necessary prerequisite materials to present to the students. Teacher-created resources may be utilized. I have already created additional worksheets & projects.**

Are there additional materials available (power points, test questions etc.): **Beamer slides, Powerpoints for Chapters 1-6 & 8-9, Engagement activities, Checkpoint quizzes, Prerequisites – a targeted review provided.**

Is the author contact information available to contact if there are more materials? **Email provided for Carl Stitz at carl@stitz-zeager.com, and LaTeX Source Code available as well as YouTube videos compiling source code**

What are the strengths of this book? (Think: writing style, citations, currency, diagrams etc..) **The organization of the topics is preferred by introducing functions at the beginning of the course. The references to and pictures of graphing calculators is very helpful. Common mistakes that students make are mentioned and corrected.**

What are the weaknesses of this book?

The writing style is not conducive to the weaker College Algebra students. It is not visually appealing so that it draws the students' attention to the material. Most of the applications

are geared toward business and economic, so I would like to see more real-world applications for a broader range of majors.

To be able to use this book – what will you have to supplement? **I would still utilize the Teacher-Created Resources that I already have used in the past, but I would be eager to incorporate the Additional Resources available for this text such as the Prerequisite Review and Engagement Activities.**

Compared to your previous purchased book – is the effort required to use this OER worth it _ why or why not? **Yes, this book would be a better option than asking a student to pay for a textbook. The students can view the text as a pdf file or request a hardcopy if desired.**

If you were to use this book, would you also use a homework system? If yes, which one would you use (LibreTexts and Lumen learning are some examples) **I would attempt to use Lumen Learning, which is a relatively low-cost option for a homework platform that has an extremely extensive offering of homework questions. The text could be used with paper and pencil assignments, but the instant feedback and help options available in Lumen would be a better option.**

Please submit the completed review to: oer@atu.edu