

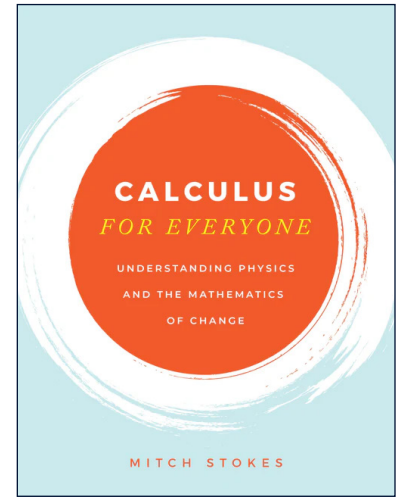
Challenge IV *Calculus for Everyone*

Frequently Asked Questions

Why is the Challenge IV Research strand changing texts?

Classical Conversations considers three aspects when changing a curriculum: how can we make it more Christian, how can we make it more classical, and how can we make it more doable for homeschool families? Prior to the Enlightenment, math, philosophy, and science were studied together. We want to repair that divide.

Calculus for Everyone offers a holistic view of math and science. Quoting from the author's preface, "We often try to beat secular scientists at their own game, playing science by their rules . . . One of the main solutions to all this is a course or two in the philosophy of science, and in particular, the integrated history of philosophy, science, and mathematics" (Stokes, 2020, p. xxv). While the modern world might compartmentalize math and physics, we know it is impossible to separate the two. We are excited to see this integration as part of a classical renewal and believe *Calculus for Everyone* offers a solid and integrated physics education to homeschool families.



What is *Calculus for Everyone: Understanding Physics and the Mathematics of Change* by Mitch Stokes?

Calculus for Everyone is an integrated mathematical and scientific text. Rather than studying many topics at a surface level, this text presents key ideas in depth, offering families time to learn the mathematical language of science. As students grasp the ideas, they are more likely to understand the abstract concepts and fit them into a coherent whole.

How will it be used at home and in community?

Calculus for Everyone provides an approachable and conversation-based physics course for all students in Classical Conversations communities. Over the course of two semesters, students read one chapter each week, answer study guide questions, and work example problems at home. In community, students discuss the reading and work problems together.

What is the difference between the study guide questions and the exercises?

The study guide questions review the material of each chapter, and the exercises provide practical applications of physics and calculus problems. Typically, there are far more study guide questions in each chapter than there are exercises. Students who answer the study guide questions will find that they understand the material far better than if they had only done the exercises.

How much time per week is needed/expected for this curriculum?

The *Calculus for Everyone* text is purposefully paced to make physics approachable to all students. The author states, ". . . we make it far harder than it has to be by covering too many topics too quickly, many topics which are unnecessary at that state of student's learning. More isn't always better, and in the case of mathematics, it can cripple the student" (Stokes, 2020, p. xxvi). Challenge IV students can plan to work restfully through the text one hour per day.

How do I assign credits for this course?

The course credits are assigned according to the parents' discretion based on their own educational goals and any state requirements. The Classical Conversations Scope and Sequence places *Calculus for Everyone: Understanding Physics and the Mathematics of Change* as a science credit. At the parent's discretion, it can be offered as one full Introduction to Physics credit or one high school math credit.

What name should I put on the transcript for the course?

Parents can name the course according to their own educational goals and state requirements. In the Scope and Sequence, Classical Conversations offers the title of "The Language of Sciences." However, parents can name the course "Introduction to Physics," "Physics," "Calculus-Based Physics," "Fundamental Physics," or other titles that fit their transcript plan.

The title of the text references math. How is this a physics credit?

There are many calculus-based physics courses offered in high school and in college. There is no one standard for a physics credit, and depending on the nature of your study, students might approach physics from many different angles. The publisher's website suggests this course be offered as either one high school introductory physics credit or one high school math credit.

How will this physics course prepare my student for college-level physics?

Most colleges today require students to take their own science courses; colleges rarely permit students to opt out based on their high school transcripts. That being said, Classical Conversations is committed to providing students with a foundational and freeing liberal arts understanding so that they can succeed in any future specialization. *Calculus for Everyone* invites students to become fluent in the language of science to confidently learn any advanced science. Modern education often provides a false sense of security as students briefly tackle a course unit without ensuring the fundamentals that provide success for advanced studies. We hope to reverse that tendency by providing a solid foundation in the sciences.

Does this resource address STEM concerns?

From the Roman Roads website: "*Calculus for Everyone* teaches calculus. But it also represents one of the first tangible steps in recent years at reunifying STEM (Science, Technology, Engineering, Math) with the liberal arts. The goal is to produce a generation of classically educated students who understand the history of math and will be better equipped to solve problems like our current crisis in Physics" ("*Calculus for Everyone*").

What about other subfields of physics?

We recognize that this book does not cover heat transfer and electromagnetism the way some high school texts do; however, it does a far better job discussing change, which is the true basis for understanding all the subfields of physics. Families are free to tailor any specialized units of physics as they deem necessary, but we are encouraged by the strong fundamental physics and integrated nature that this book offers.

Is this a lab course?

Historically, the Challenge IV program has not offered a lab-based physics course. The fundamentals of physics are examined through mathematics, requiring the ability to work math calculations. This course teaches the language of science (calculus) and then practically applies it to physics concepts. Families may choose to supplement with a full lab at home as they see fit.

Are parents expected to tailor this course?

As classical educators, all texts are resources that we draw on for our studies but are not the curriculum. Any text is merely a tool for studying in the hands of our students. A parent often has a student study any subject with multiple resources (i.e., biographies or online articles). As always, we encourage families to tailor any part of the curriculum to suit and challenge their student's growth. Parents may offer more depth with library or online reading, research projects and papers, or labs. Conversely, they may opt to lighten the load by scaling some example problems or extending a lesson beyond one week.

Is there a math prerequisite?

The prerequisites for this course are stated on page xvii: "The only prerequisite for this course is a very basic understanding of Algebra I. The student should, for example, be familiar with polynomials and be able to manipulate such polynomials" (Stokes, 2020).

What supplemental help is available to families and Directors?

Classical Conversations provides supplemental materials on CC Connected to assist families and Directors as necessary. Challenge IV families may access the Roman Roads supplemental video series for this course in the Learning Center; Directors may utilize the Weekly Helps to foster community conversations; and both Directors and families can visit the Discussion Forum for extra help, encouragement, and ideas.

What is the cost of the product?

The cost of this product is approximately \$120 for the text and \$24 for the solutions and answer key. This resource is published by Roman Roads Press. Pricing is subject to change at the publisher's discretion.

Do families need any additional supplies to be able to use this resource?

Families need *Calculus for Everyone: Exercise Solutions and Answer Key* to successfully complete the course.

Can siblings share this resource? Is this resource consumable?

Yes, siblings can share this resource. No, this resource is not consumable, however, students are encouraged to highlight and annotate in the book to enhance comprehension, which may make repeated use challenging.

What do I do if I have more questions about *Calculus for Everyone*?

If you have specific questions about the text, please contact Roman Roads Media. If you have questions about how the text is used at home or in community, please visit the Challenge IV Discussion Forum or email your questions to ChallengeIV@ClassicalConversations.com.

Bibliography

"*Calculus for Everyone: Understanding the Physics and Mathematics of Change*." Roman Roads Press. Accessed March 10, 2025. <https://romanroadspress.com/calculus-for-everyone/>.

Stokes, Mitch. 2020. *Calculus for Everyone: Understanding Physics and the Mathematics of Change*. Roman Roads Media, LLC.