

Introduction and Welcome: To Know the End from the Beginning...

Introduction

Welcome to *Math Is Everywhere! Explore and Discover It!*, a unique, project-based mathematics textbook and course of study for college students, particularly those who are Liberal Arts majors, and for anyone interested in mathematics and its relevance and application in today's world.

While written for entry-level college students in general, this text is especially suited for those who might be math-avoiders or math-phobic. It is also suited for those who may become elementary, middle or high school mathematics teachers; the content has much to offer in the way of mathematical ideas and resources for future educators.

If you have ever felt that math was a dry and boring subject and wondered, “*Why do I have to learn this?*” or “*When will I ever use this?*”, then this textbook is for you! You'll soon discover that mathematics has many fascinating and practical connections to music, art, architecture, nature, sports, finance, food, and much more, and I'm confident that you will thoroughly enjoy this textbook and course of study. ☺

In the Beginning

This text was written to engage students in active learning and to reveal the beauty, practicality and pervasiveness of math in our daily lives. *Math Is Everywhere!* provides an effective means by which students can overcome their negative associations with math and find empowerment in their own analytical reasoning and critical thinking abilities. The text conveys a sense of enthusiasm, offers encouragement for success, and provides a wealth of opportunities for students to become engaged in mathematics in interesting and enjoyable ways.

Goals and Objectives

Math Is Everywhere! is designed around the following seven goals:

- to engage students in active learning through the use of projects and activities
- to demonstrate the beauty, practicality and pervasiveness of math in our daily lives
- to lead students into a new and refreshing relationship with mathematics
- to alleviate student math anxiety
- to enable students to develop their analytical reasoning and critical thinking skills
- to promote technological skills
- to encourage students to become lifelong learners of mathematics

Math Is Everywhere! Explore and Discover It!
Introduction and Welcome: To Know the End from the Beginning...

In addition to the course goals and purposes mentioned above, there are specific content and learning objectives as well. Each textbook chapter contains a brief introduction that includes an outline of the specific course objectives for that chapter.

End Results—Evidence of Success

From the outset, the materials that now comprise ***Math Is Everywhere!*** have experienced great success. Thousands of students have used these materials and the results have been extremely positive. This curriculum was selected as a finalist in the Florida Association of Community Colleges *Excellence in Curriculum Competition* in 2001 and was also nominated for the Instructional Technology Council’s Outstanding Distance Learning Course Award in 2007.

The following comments were made by some of my former students and are representative of the responses that students have had to this text and its project-based teaching/learning approach. I fully expect that you also will have a positive experience with this text and I look forward to hearing from you after you have completed this course of study.

Best wishes for an exciting and adventuresome journey into the realm of mathematics, one in which you may enter into a new and enjoyable relationship with mathematics! ☺

Sincerely,

James J. Rutledge
St. Petersburg College

Student Comments

This is the most fun I’ve ever had in Mathematics. I wonder why someone hasn’t thought of this sooner.

For the first time I can say that I didn’t feel the anxiety that I would normally feel. I was calm, and didn’t even break out into a sweat! There hasn’t been a project that I didn’t enjoy. Now I find myself wondering about the Math in everything I look at.

I truly enjoyed this class. I have to be honest when I say that math is definitely my weakest subject. This class gave me a different approach to math and showed me ways that I would actually use the skills I learned in the class in everyday life. More often than not, I am staring in a textbook and thinking “why do I need to know this???” I know I will never have a need for this in my life!!” With this class I did not feel that way. The textbook was very well written and user friendly.

Math Is Everywhere! Explore and Discover It!
Introduction and Welcome: To Know the End from the Beginning...

My attitude has changed about math. It doesn't seem like the imposing tower of doom any longer. I find myself using and telling people about some of the things I learned here when I encounter them out in the real world.

Liberal Arts Math II was the most pleasant experience that I have ever had with a math course. Overall, I felt that this class has prepared me for things that I didn't even know I needed preparing for. I woke up and realized that the world won't wait for me to be ready. I feel that I have a better understanding of what I will truly need to take out of school and put forth in my career. That is what school is all about!

The textbook is wonderful and explained everything so clearly! The examples are great and helped me to better visualize the material and to better understand it. The best part was the HUMOR! It made the projects so much less intimidating and put me in a relaxed mood, which helped me think more clearly. I have actually used the words "Math" and "Fun" in the same sentence many times during this class which is something I have never done before. I will recommend this class to everyone (especially math-phobics) and thank you for changing my attitude about math.

I honestly enjoyed this math course more than any other that I have taken. As you probably could tell, I become frustrated easily with math! It is not my forte! This class was very different from the usual standard math classes. It really did teach that there is a lot of math in our everyday lives that we do not even see. The Fibonacci sequence is truly amazing! It was very fascinating to see just how math and nature are intertwined. I enjoyed some of the earlier projects such as the Numbers Curiosities, learning to use an Abacus was pretty cool, Fibonacci's Rabbits was also fun, and I really enjoyed the last paper that I wrote on M.C. Escher. I have always liked his artwork so it was very interesting and educational to learn more about his life and how graphics and mathematics played such an important role.

I enjoyed this math class. It held my interest and is definitely the most interesting math class I have taken. I have learned from this class that math is intertwined in about everything that we encounter in life. I have always been fearful of anything associated with mathematics. Ask me to add 2 plus 2 and I freeze with fright. Math has always scared me so much that thinking logically becomes impossible. This class has helped me to overcome some of this fear and to see math as part of my life. In summary, this was a wonderful course.

Math Is Everywhere! is probably THE single, best text I have ever used. You did a great job in putting it together and laying out the course. I thought the book was excellent not only for the content, but it was inexpensive and I think you should be able to write in a math book, it makes life much easier. The course is great. I wouldn't change anything! Really, not a thing. I was very intimidated by math prior to taking this class and now feel much more confident. Great job and great class!

I would definitely say that my attitude towards mathematics has changed after taking this class. I really enjoy learning about the deeper connections between numbers and life whether it is nature, music, art, or even financial concerns. I found these relationships and patterns to be quite

Math Is Everywhere! Explore and Discover It!
Introduction and Welcome: To Know the End from the Beginning...

intriguing, something I am sure I will maintain an interest in for the rest of my life. I think that if children were taught this way they would themselves feel a closer relation to something that is so important. I absolutely loved the projects—such a much more exciting alternative to cramming for a few big tests. I found myself studying just as much if not more than with the traditional way of teaching but enjoying it. I wish all my classes were based on this theory of teaching.

This was a great course! I never thought I would find math so relevant to everyday life. I have struggled with math all of my life, but this class was a lot easier to understand. It was just explained in a different way. What was great was that I actually learned and enjoyed everything about the class. Other math classes just got boring and uninteresting. So, I just want to say thank you, Mr. Rutledge, for making math fun again. You sparked a new interest for math I never knew I had.

Honestly, I would have to say that this has been the most enjoyable math class I have ever taken. I feel like it opened up a whole new world of math to me, going beyond just memorizing formulas and such. It also focused on math in relation to the real world, so that I have come away with a better understanding of the major impact math has had in the world not only in science but even in art and music. I was a self proclaimed “math hater” but now I have a whole new appreciation for math. Thank You.

This was the best math class that I have ever taken! I have always struggled with math and many times I have questioned the reason for needing to know much of the material in other math classes. This class was different and actually related math to something concrete in my life and I have learned so many things that I can actually use in my daily life. I have finally realized the point of doing an equation and rather than it being just “numbers”; it has shown me that by using a formula I will save time and actually figure out the answer to a problem that has some meaning to me.

The text used for this course was amazing! The writing style, the layout, and most of all the price were better than any math book I have ever used in the past (and sadly I’ve taken a lot of math classes in my pursuit for my degree). I enjoyed the way things were written as to make it easier for those of us who are not math majors to understand. You related things to every day life, and that made learning the concepts so much easier.

This mathematics course was probably the most interesting I have ever taken as a college student. The premise of just simply crunching numbers without ever learning about the origins or even how they may apply toward a “real-life” scenario is addressed with this course. This has been a great class and I would strongly recommend it to any math-phobic individuals who feel like they cannot grasp concepts or that math will never apply to the real world, this class disproves that logic.

I enjoyed this math class very much. There were very many interesting subjects we learned about. The one that has stayed with me was the Fractal Art. I really enjoyed that subject and the pictures were great. The CD project was also interesting, but I have to say that the rabbit project was impressive. Now I know why my mother would never let me have one. Overall, I don’t

Math Is Everywhere! Explore and Discover It!
Introduction and Welcome: To Know the End from the Beginning...

think there were any assignments I didn't like. I believe I would enjoy math more if all of the classes were as interesting, fun and comprehensive as this one. Thank you for an enjoyable semester!

I loved the number puzzles and found them challenging, yet fun. I can honestly say I looked forward to doing math homework! I felt such a sense of accomplishment when I finally solved a puzzle! The projects on investments and mortgages were also valuable to me and I feel so much more knowledgeable about savings and investments. The Web sites offered great information that I can use long after this class is over.

I can honestly say that math was my least favorite subject until this course. I enjoyed this course because it made you want to learn. I'm very good with visual things and by learning hands-on. This class helped with both and kept my interest with the jokes and M&M's; I had a blast. I loved this class. Thank you for making it so much fun.

I can honestly say that this class was the most effective math course I have ever taken. I was a bit skeptical at first, but I was truly surprised at how much I have learned. I am happy I made the decision to enroll and would encourage anyone to do the same. The most interesting aspect of this course was the "unorthodox" assignments, i.e. counting M&M's and measuring objects in the home. I feel that these tasks definitely brought a different perspective that was so needed. Overall, I can say without hesitation that this class changed my entire attitude towards math, something I am grateful for.

I feel that as an Elementary Ed major this course gave me lots of resources to look for an answer, lesson plans, insight, etc., in the future. I also think that I will be better able to explain to a class when that age-old question comes up, "Why do we have to learn this anyway?" I think I am also better equipped to appreciate the overall beauty of math and to convey that to children.

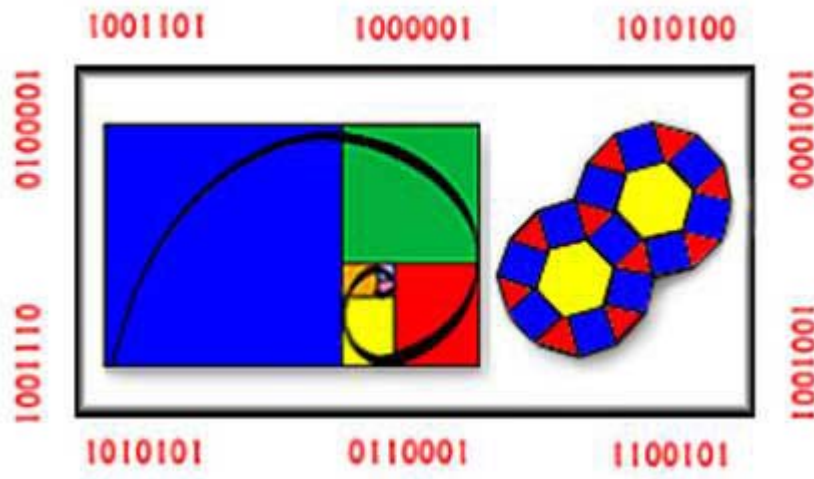
I loved our text. It is by far the best mathematics book I've had the pleasure of using! You personalize math well and really present real life analogies for everything. So much of math seemed abstract before. You did an excellent job of bringing math into the realm of reality! Everyone should be lucky enough to get a math class like this one. If I would have had this class (or one similar to it) early on in my schooling, I would have been a lot more interested and excited in higher-level mathematics.

Math Is Everywhere! Explore and Discover It!
Introduction and Welcome: To Know the End from the Beginning...

Course Logo

The logo shown below embodies some of the many topics and applications that are presented in this textbook. It also contains an encoded message that I'm sure you will appreciate later in this course of study!

Meanwhile, please prepare to embark on a mathematical and educational journey that may very well change both your life and your outlook on mathematics. ☺



Note: This logo also appears on the cover of this textbook in a multicolor format.