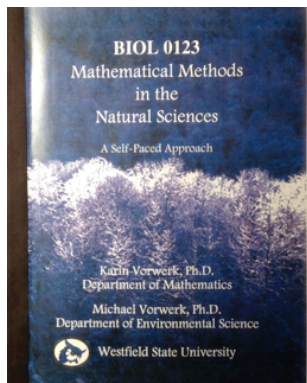


MATH 0123

Mathematical Methods in the Natural Sciences (Hybrid-Online)



Instructor: Prof. Steve O'Brien

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Text: Mathematical Methods in the Natural Sciences – available in the Mathematics Office and on-line. It is highly recommended that you get a hard copy. The book is free.

Lab Manual: Also available in the Mathematics office and it is free.

Technology: The course is Excel based. You will need **access to a scanner**. There are many scanner apps available for students with smart phones. Tiny Scan works nicely.

Course Description & Objectives

The course will be face to face for about a week at the beginning of the semester or until you can navigate in the on-line course environment. For most of the semester the course will be on-line. The labs, however will be face to face.

The goal of this course is to help you learn and sharpen the basic mathematical skills which you will need for success in the Natural Sciences.

Strategy for Success

Each unit includes an explanation of several related topics, examples pertaining to each topic, exercises called “You Try Its” which will help you assess your understanding of a given topic and finally a unit quiz. Work each of the completed examples and the “You Try Its” as you encounter them. The “You Try Its” are problems that directly pertain to the material you just read.

Math is a cumulative subject. That means an understanding of a topic you study early in the workbook will be required for you to understand one or more topics that occur later in the text. When you encounter a concept or an example that you don't understand, spend time formulating a question. For instance, if you are reading one of the completed examples and do not understand how the author got from one step to the next, post your question on the “Ask the Instructor” page which is located in the Communications section of the on-line course. Try to be as specific as possible. I will typically respond to each question within 24 hours and sometimes much faster.

Make sure you know and understand each homework problem. The answers to the “You Try Its” and the homework problems are given in the back of the book and in the resources section on-line. Don't fall into the trap of looking up the answer first. Looking at the answer first can give you the very false impression that you know how to do the problem. The homework problems are taken from typical situations in various natural sciences. Consequently, the end of unit quiz is based on the homework.

Course Requirements

Quizzes: All quizzes are on-line. Some are completely online and some must be printed out, completed by hand and then scanned into Plato. Scanning and uploading your work will be covered in the face to face portion of the class at the beginning of the semester.

Laboratory: The laboratory exercises are designed to give you an opportunity to use certain math skills that you acquired earlier in the semester. They are hands on and will be conducted in room W202 during March and April. During lab sessions you are encouraged to ask about any topic in the workbook.

Final Exam: This test is on-line.