

Cedarville University

Department of Science and Mathematics

Precalculus, GMTH 1030-02 online, Spring 2010

- Instructor: Dr. Otis Wright
- Contact information: please send all course-related e-mail to me using the WebCT course e-mail facility. You may also send me e-mail at wrighto@cedarville.edu if necessary, but please use the WebCT e-mail facility for course-related e-mail. My office is ENS 341B. My office phone number is 937-766-7690.
- Section information: GMTH 1030-02, online, syn. no. (see online Course Schedule)
- Final Exam: Friday 4/16/2010, online with Mathzone
- Textbook: *Precalculus w/Mathzone Access Card*, 6th edn, R. A. Barnett, M. R. Ziegler, K. E. Byleen, McGraw-Hill, 2008, ISBN 0073347175 or 9780073347172. To purchase the textbook bundled with Mathzone, contact the Cedarville University Bookstore, the above ISBN numbers are for the bundle. Alternatively, you may purchase the textbook (ISBN-13 9780073312637 for the textbook only without Mathzone) separately. Mathzone access may be purchased separately from the textbook by going to www.mathzone.com.
- **Mathzone:** Using your Mathzone access (registration) code (which either comes bundled with your textbook or is purchased separately from the textbook at www.mathzone.com) logon to the Mathzone website (www.mathzone.com) that contains much of the material for this course. When you logon, you will need to enter two numbers, your access (registration) code AND the section code: **ECF-EE-C88**.
- **Maple:** Every lecture will have a corresponding Maplesheet homework. Extensive use of Maple is required in the course but no previous knowledge of Maple is assumed. Maple will function as a graphing calculator for understanding the material and solving homework problems but also as a means to communicate mathematically in our virtual classroom. You must have access to Maple either on a university-owned computer or by purchasing **Maple 13 Student Edition** from the website www.maplesoft.com. If you purchase Maple 13 Student Edition

from the Maplesoft website, you should enter the course adoption promotion code **AP58024** in your purchase order so that you may be eligible for a discount on the purchase price (because this course is registered with the Maple Adoption Program).

- Prerequisite: proficiency in mathematics, i.e., college algebra or equivalent.
- Course Description: This course introduces you to the exponential and logarithmic functions, the trigonometric functions, trigonometric identities and vectors in the plane. Mastery of these topics will enable you to enter into the study of calculus using functions that model typical growth, decay and periodic behaviours in physical, biological and economic applications.

- How to Succeed in this Course

Read this Syllabus carefully. Print it out, place it in an easily accessible place on your desk where you will see it for easy reference and be reminded of this course everyday.

Study the Course Calendar diligently, check it everyday for what you need to do that day, any discussions or quizzes or tests coming due soon, and communicate with your professor by e-mail if you have any questions.

Each day you should logon to the two course websites to keep up-to-date with the course material:

1. Mathzone: Videos, Practice Quizzes, Quizzes and Tests are located on the Mathzone website.
2. WebCT: Course Information, Discussion Board, Maplesheets, My Grades and E-mail are located on the WebCT site.

- Course Structure: The course is divided into four Modules,

1. Exponential and logarithmic functions,
2. Trigonometric functions,
3. Trigonometric identities,
4. Additional topics in trigonometry.

Each Module is divided up into a sequence of topics and lectures, each topic corresponds to a chapter in the textbook and each topic is divided up into smaller lectures for each day. Each topic has the following content,

1. material to read from the textbook,
2. supplementary Mathzone videos,
3. exercises to try from the textbook,
4. Maplesheets for homework,
5. a Mathzone practice quiz,
6. a Mathzone quiz,
7. a discussion question.

At the end of each Module there is a multiple-choice Test in Mathzone (similar to the Mathzone quizzes) that covers the material in that Module. At the end of the course there is a comprehensive multiple-choice Final Exam in Mathzone.

- Algebra Review Quiz: located on the Mathzone course site, the Algebra Review Quiz is a multiple-choice algebra quiz that will help you practice the basic algebra skills required for precalculus. You may take the Algebra Review Quiz as often as you wish between the beginning of the course and before the first test; you will keep your highest score. The Algebra Review Quiz is worth 5% of your final grade. If you would like to review the algebra material covered in the Algebra Review Quiz, you may read through Section R, Basic Algebra Operations, at the beginning of the textbook.
- Mathzone Videos: each topic has Mathzone videos that you can watch that help to explain the material found in the textbook. If you can understand the material simply by reading the textbook and working the practice problems, then there is no requirement to watch the Mathzone videos; the Mathzone videos are supplementary in nature, try watching them to supplement what you read in the textbook, they are not a replacement for reading the textbook.
- Mathzone Practice Quizzes: each topic has a practice multiple-choice quiz that you can take as often as you wish to prepare for the quiz at the end of the topic.
- Mathzone Quizzes: each topic has a ten question open-book multiple-choice quiz with questions very similar to the practice quiz. You may take the quiz only once, you must complete it in one hour and you must take it before 11:59pm on the day specified in the Course Calendar.

- **Mathzone Module Tests:** each Module has a twenty question open-book multiple-choice quiz with questions similar to the quizzes for the topics in that module. You may take the test only once, you must complete the test in two hours and you must take the test before 11:59pm on the day specified in the Course Calendar.
- **Calculator Policy:** Since you are required to have access to Maple on your computer for this course, you may use Maple as your calculator. It is not necessary to purchase a separate calculator, although you may use a calculator also if you wish.
- **Discussions:** Each topic has a discussion question that must be answered in the threaded discussion tool of WebCT by 11:59pm of the date specified on the Course Calendar. Your homework for the first day of class is to read this Syllabus as listed on the Course Calendar and to find Discussion 0.1: How do you do? on WebCT, read the welcome message from the professor and introduce yourself to the class.
- **Mathzone Total Course Final Exam:** the comprehensive 20 question multiple-choice open book Final Exam must be completed in two hours by 11:59pm of the date specified in the Course Calendar. Once you complete the Final Exam, the course is complete.

• Assessment:	Algebra Review Quiz (best attempt)	5 %
	19 Discussions (averaged)	5 %
	39 Maplesheets (averaged)	40 %
	21 Mathzone Quizzes (averaged)	20 %
	4 Mathzone Module Tests (averaged)	20 %
	Mathzone Total Course Final Exam	10 %
Total		100%

- **Grading Scale** less than 60% F, 60%-69% D-,D,D+, 70%-79% C-,C,C+, 80%-89% B-,B,B+, 90%-100%, A-,A.
- **Disability Services Statement** If you believe you may need support in managing the impact of a disability, please contact Amy Frey, afrey@cedarville.edu, (Disability Services). Faculty rely on Disability Services to verify the need for academic accommodations and to identify reasonable and appropriate accommodation strategies. Disability Services is part of the Academic Enrichment Center-The Cove located in the BTS building.

- **Student Learning Outcomes**

Upon completion of this course a student should be able to:

1. think analytically using the properties of trigonometric and inverse trigonometric functions,
2. simplify expressions and solve equations using trigonometric identities,
3. solve triangles using Law of Sines and Law of Cosines,
4. solve equations and simple models containing exponential and logarithmic functions,
5. manipulate vectors both analytically and graphically,
6. add and multiply complex numbers.

Course Calendar, Spring 2010 - Part A

Week	Day	Date	Lecture	Activity due
1	M	1/18	Read Syllabus	Discussion 0.1
	T	1/19	Lecture 1.1.1	
	W	1/20	Lecture 1.1.2	
	R	1/21	Lecture 1.1.3	Maple 1.1, Discussion 1.1, Quiz 1.1
	F	1/22	Lecture 1.2.1	
2	M	1/25	Lecture 1.2.2	Maple 1.2, Discussion 1.2, Quiz 1.2
	T	1/26	Lecture 1.3.1	
	W	1/27	Lecture 1.3.2	
	R	1/28	Lecture 1.3.3	Maple 1.3, Discussion 1.3, Quiz 1.3
	F	1/29	Lecture 1.4.1	
3	M	2/1	Lecture 1.4.2	Maple 1.4, Quiz 1.4
	T	2/2	Lecture 1.5.1	
	W	2/3	Lecture 1.5.2	
	R	2/4	Lecture 1.5.3	Maple 1.5, Quiz 1.5
	F	2/5		Algebra Review Test
4	M	2/8		TEST 1
	T	2/9	Lecture 2.1.1	
	W	2/10	Lecture 2.1.2	
	R	2/11	Lecture 2.1.3	Maple 2.1, Quiz 2.1
	F	2/12	Lecture 2.2.1	
5	M	2/15	Lecture 2.2.2	
	T	2/16	Lecture 2.2.3	Maple 2.2, Discussion 2.2, Quiz 2.2
	W	2/17	Lecture 2.3.1	
	R	2/18	Lecture 2.3.2	Maple 2.3, Quiz 2.3
	F	2/19	Lecture 2.4.1	
6	M	2/22	Lecture 2.4.2	
	T	2/23	Lecture 2.4.3	Maple 2.4, Discussion 2.4, Quiz 2.4
	W	2/24	Lecture 2.5.1	
	R	2/25	Lecture 2.5.2	Maple 2.5, Quiz 2.5
	F	2/26	Lecture 2.6.1	

Course Calendar, Spring 2010 - Part B

Week	Day	Date	Lecture	Activity Due
7	M-F	3/1-3/5	Spring Break	
8	M	3/8	Lecture 2.6.2	
	T	3/9	Lecture 2.6.3	Maple 2.6, Quiz 2.6
	W	3/10		
	R	3/11		TEST 2
	F	3/12	Lecture 3.1.1	
9	M	3/15	Lecture 3.1.2	Maple 3.1, Discussion 3.1, Quiz 3.1
	T	3/16	Lecture 3.2.1	
	W	3/17	Lecture 3.2.2	Maple 3.2, Discussion 3.2, Quiz 3.2
	R	3/18	Lecture 3.3.1	
	F	3/19	Lecture 3.3.2	Maple 3.3, Quiz 3.3
10	M	3/22	Lecture 3.4.1	
	T	3/23	Lecture 3.4.2	Maple 3.4, Quiz 3.4
	W	3/24	Lecture 3.5.1	
	R	3/25	Lecture 3.5.2	Maple 3.5, Discussion 3.5, Quiz 3.5
	F	3/26		TEST 3
11	M	3/29	Lecture 4.1.1	
	T	3/30	Lecture 4.1.2	Maple 4.1, Quiz 4.1
	W	3/31	Lecture 4.2.1	
	R	4/1	Lecture 4.2.2	Maple 4.2, Discussion 4.2, Quiz 4.2
	F	4/2	Good Friday	
12	M	4/5	Easter Monday	
	T	4/6	Lecture 4.3.1	
	W	4/7	Lecture 4.3.2	Maple 4.3, Discussion 4.3, Quiz 4.3
	R	4/8	Lecture 4.4.1	
	F	4/9	Lecture 4.4.2	Maple 4.4, Quiz 4.4
13	M	4/12	Lecture 4.5.1	
	T	4/13	Lecture 4.5.2	Maple 4.5, Quiz 4.5
	W	4/14		TEST 4
	R	4/15		
	F	4/16		FINAL EXAM