

Marshall University Syllabus

Course Title / Number	MTH 132: Precalculus with Scientific Applications (CRN 3053)												
Semester/Year	Fall 2015												
Days/Time	MTWRF 9AM – 9:50AM												
Location	Smith Hall 511												
Instructor	Dr. Michael Schroeder												
Office	742F Smith Hall												
Phone	(304) 696-6643												
E-Mail	schroederm@marshall.edu												
Office/Hours	MTWRF 10AM-11AM (Smith 742F)												
University Policies	<p>By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy by going to</p> <p style="text-align: center;">www.marshall.edu/academic-affairs</p> <p>and clicking on “Marshall University Policies.” Or, you can access the policies directly by going to</p> <p style="text-align: center;">http://www.marshall.edu/academic-affairs/?page_id=802</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Academic Rights and Responsibilities of Students</td><td style="width: 50%;">Academic Dishonesty</td></tr> <tr> <td>Excused Absence Policy for Undergraduates</td><td>Affirmative Action</td></tr> <tr> <td>Academic Probation and Suspension</td><td>Inclement Weather</td></tr> <tr> <td>Computing Services Acceptable Use</td><td>Sexual Harassment</td></tr> <tr> <td>Students with Disabilities</td><td>Dead Week</td></tr> <tr> <td>Academic Forgiveness</td><td></td></tr> </table>	Academic Rights and Responsibilities of Students	Academic Dishonesty	Excused Absence Policy for Undergraduates	Affirmative Action	Academic Probation and Suspension	Inclement Weather	Computing Services Acceptable Use	Sexual Harassment	Students with Disabilities	Dead Week	Academic Forgiveness	
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Course Description: From Catalog

Functions used in calculus including polynomial, rational, exponential, logarithmic, and trigonometric. Systems of equations and inequalities, conic sections, polar parametric equations, sequences and series, and Binomial Theorem.

(PR: Math ACT 24 or above, or C or better in MTH 127 or C or better in MTH 130)

The table below shows the following relationships:

How each student learning outcomes will be practiced and assessed in the course.

Course Student Learning Outcomes	How students will practice each outcome in this Course	How student achievement of each outcome will be assessed in this Course
Students will learn ...		
how to manipulate algebraic expressions and solve algebraic equations;	homework, classwork	midterms and final exam
solving algebraic inequalities and using those results to graph polynomial and rational functions;	homework, classwork	midterms and final exam
the graphs of basic polynomial, exponential, logarithmic, trigonometric, and inverse functions and how to manipulate them;	homework, classwork	midterms and final exam
the six basic trigonometric functions and their application;	homework, classwork	midterms and final exam
an introduction to vectors and their applications; solving systems of equations, manipulating matrices, and how these two are related;	homework, classwork	midterms and final exam
sequences and series and their applications;	homework, classwork	midterms and final exam
basic counting techniques and probability; solving “real-world” problems by translating the problem into algebra.	homework, classwork	midterms and final exam

Required Texts, Additional Reading, and Other Materials

1. Stewart, Redlin, and Watson. *Algebra and Trigonometry*, 4th edition. (ISBN: 9781305071742)

Course Requirements / Due Dates

1. Homework will be assigned using WeBWorK, an on-line homework program. Almost all homework will be submitted on-line. There will be assignments due multiple times per week. Deadlines will be posted on-line. Your homework assignments can be found here:

<http://webwork.marshall.edu/webwork2/F15-Math-132-Schroeder/>

Homework due dates are posted in WeBWorK. Homework is worth 120 points.

2. There will be at-home prepwork and in-class assignments which will be reviewed for a grade. Class participation is also incorporated into the in-class grade. In-class assignments constitute 70 points while the classwork is worth 60 points.
3. We will have six mid-term exams and a final exam in this course. Each midterm exam will be worth 100 points, and the lowest exam score will be dropped. The final exam will be worth 250 points. Notecards, books, and all other material is prohibited. The final will be comprehensive. An unexcused absence for an exam will result in a **zero (0)** for that grade. Any absences must be discussed with me before the following class day.

Grading Policy

This course will be graded from a total of 1000 points. Letter grades will be assigned based on the chart to the right.

Graded Work	Point Value
Homework	120
Classwork	60
Class Participation	70
Midterm Exams (100 points each)	500
Final Exam	250
TOTAL	1000

Point Ranges	Letter Grade
900 - 1000	A
800 - 899	B
700 - 799	C
600 - 699	D
0 - 599	F

Attendance Policy

You are responsible for everything that is said and covered in class each day. Attendance is strongly recommended. Attendance and participation will be key factors in border-line grades getting bumped.

Course Topics

Topics discussed will include: functions used in calculus including polynomial, rational, exponential, logarithmic, and trigonometric, systems of equations and inequalities, conic sections, polar and parametric equations, sequences and series, and the Binomial Theorem.

Course Schedule

There are approximately 3-4 homework assignments due each week.
Their due dates are posted in WeBWorK.

There are six (6) midterms given throughout the semester.
Their dates will be announced at least one (1) week beforehand.

The final exam will be given on Friday, December 11, 2015 at 8AM.

MTH 132: Precalculus with Scientific Applications

Specific Class Information

Semester:	Fall 2015	Instructor:	Dr. Michael Schroeder
CRN:	3052 (102)	Email:	schroederm@marshall.edu
Meeting Days:	MTWRF	Office (Phone):	Smith Hall 742F, (304) 696-6643
Meeting Time:	8:00AM – 8:50AM	Office Hours:	MTWRF 10AM to 11AM or by appointment
Classroom:	Smith Hall 511		

Math Tutoring Lab 1:	Smith Music 115	Math Tutoring Lab 2:	Smith 620
Lab Hours:	MTWR 10AM to 4PM F 10AM to noon	Lab Hours:	MTWR 4PM to 6PM

Required Text: Stewart, Redlin, & Watson. *Algebra and Trigonometry, 4th edition*. (ISBN: 9781305071742)

Prerequisites: Math ACT 24 or above, or C or better in MTH 127 or C or better in MTH 130

Class Materials: Scientific calculators are permitted – no symbolic manipulation or phones on exams.
Regular access to an internet-accessible computer is **required**.
A folder with pockets is **required**. A large 3-ring binder is **strongly recommended**.

Learning Outcomes, Methods, and Assessment

In this course, there are eight primary learning outcomes for students. Each are listed below, along with the means by which students will practice for each outcome and methods of assessment.

Desired MTH 132 Learner Outcomes/Objectives

Successful students will learn ...

- ▶ how to manipulate algebraic expressions and solve algebraic equations;
- ▶ solving algebraic inequalities and using those results to graph polynomial and rational functions;
- ▶ the graphs and manipulations of basic polynomial, exponential, logarithmic, trigonometric, and inverse functions;
- ▶ the six basic trigonometric functions and their application;
- ▶ an introduction to vectors and their applications;
- ▶ solving systems of equations, manipulating matrices, and how these two are related;
- ▶ sequences and series and their applications;
- ▶ solving “real-world” problems by translating the problem into algebra.

Practice and Assessment Methods

The student will have low-stakes quizzes, homework, projects, and other activities to serve as practice. The midterm and final exams will serve as the assessment tool.

Course Description

Topics discussed will include: functions used in calculus including polynomial, rational, exponential, logarithmic, and trigonometric, systems of equations and inequalities, conic sections, polar and parametric equations, sequences and series, and the Binomial Theorem. (5 hours)

Course Policies

Attendance

You are responsible for everything that is said and covered in class each day, along with any class material posted online. Participation and preparation for class are expected and is part of your grade. Any absences must be discussed with me before the following class day. Please email or come to my office.

Course Policies (continued)

Homework

Homework will be assigned using WeBWorK, an on-line homework program. Almost all homework will be submitted on-line. There will be assignments due multiple times per week. Deadlines will be posted on-line. Your homework assignments can be found here:
<http://webwork.marshall.edu/webwork2/F15-Math-132-Schroeder/>

Lectures and In-Class Activities

In this course, we will use a modified version of the *flipped classroom*. Lectures are posted as videos online. Before each class, you will watch the lectures and take notes on the provided note shells.

Promptly at the **beginning of class**, these notes will be checked for completion. There is a computer lab across the hall from class; if you do not complete your notes before class, you will watch the video during class in the lab. You will receive only a small fraction of your class participation grade for the day.

You will work in groups on problems each day in class, and these problems will be related to the material covered in the videos. Most days, your groups will present problems on the board.

Your participation in class (coming prepared with notes, completing work in class, asking questions, posting solutions, etc.) will constitute 70 points of your final grade.

Exams

We will have six (6) mid-term exams and a final exam in this course. Each midterm exam will be worth 100 points, and the lowest exam score will be dropped. The final exam will be worth 250 points and is comprehensive. An unexcused absence for an exam will result in a **zero (0)** for that grade. An excused absence as determined by the Office of Student Affairs (location at MSC2W38) will warrant a makeup exam.

The **final exam** is Friday, December 11, 2015 at 8AM in Smith 511.

Classwork Collection

At each midterm exam, your classwork will be collected. It must be organized in a folder with pockets in the order that the lessons were covered. **All problems must be completed.** Each completed submission is worth 10 points.

Grade Scale

This course will be graded from a total of 1000 points. Letter grades are assigned on a 100-point scale.

Homework	120
Classwork	60
Prepwork / In-class participation	70
Midterm Exams (100 points each)	500
Final Exam	250
TOTAL	1000

Point Ranges	Letter Grade
900 - 1000	A
800 - 899	B
700 - 799	C
600 - 699	D
0 - 599	F

University-Wide Policies

You are responsible for knowing all university policies, which can be found at

http://www.marshall.edu/academic-affairs/?page_id=802

About this Syllabus

This syllabus is subject to change at my discretion.