

Marshall University Syllabus

| | | | | | | | | | | | | | |
|--|---|--|---------------------|---|--------------------|-----------------------------------|-------------------|-----------------------------------|-------------------|----------------------------|-----------|----------------------|--|
| Course Title / Number | MTH 132: Precalculus with Scientific Applications (CRN 3121) | | | | | | | | | | | | |
| Semester/Year | Spring 2014 | | | | | | | | | | | | |
| Days/Time | MTWRF 8AM – 8:50AM | | | | | | | | | | | | |
| Location | Smith Hall 514 | | | | | | | | | | | | |
| Instructor | Dr. Michael Schroeder | | | | | | | | | | | | |
| Office | 742F Smith Hall | | | | | | | | | | | | |
| Phone | (304) 696-6643 | | | | | | | | | | | | |
| E-Mail | schroederm@marshall.edu | | | | | | | | | | | | |
| Office/Hours | MWF 9AM (Smith Music 115) & MW 2PM (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 be 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 | |
| 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 | | | | | | | | | | | | | |

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; | low-stakes quizzes, homework, classwork | midterms and final exam |
| solving algebraic inequalities and using those results to graph polynomial and rational functions; | low-stakes quizzes, homework, classwork | midterms and final exam |
| the graphs of basic polynomial, exponential, logarithmic, trigonometric, and inverse functions and how to manipulate them; | low-stakes quizzes, homework, classwork | midterms and final exam |
| the six basic trigonometric functions and their application; | low-stakes quizzes, 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; | low-stakes quizzes, homework, classwork | midterms and final exam |
| sequences and series and their applications; | low-stakes quizzes, homework, classwork | midterms and final exam |
| basic counting techniques and probability; solving “real-world” problems by translating the problem into algebra. | low-stakes quizzes, homework, classwork | midterms and final exam |

Required Texts, Additional Reading, and Other Materials

1. Larson, Ron. *Algebra and Trigonometry*. (ISBN: 9781133959748)

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/S14-Math-132-Schroeder/>

Homework due dates are posted in WeBWorK.

2. There will be short in-classes quizzes at the beginning of class on most days during the semester. Each quiz is worth three (3) points. Your top 50 quiz grades will be added to get your quiz grade for the semester.
3. We will have five mid-term exams and a final exam in this course. Each midterm exam will be worth 125 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. An excused absence as determined by the Office of Student Affairs (location at MSC2W38) will warrant a makeup exam.

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 | 100 |
| Quizzes | 150 |
| Midterm Exams (125 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 five (5) midterms given throughout the semester.
Their dates will be announced at least one (1) week beforehand.

The final exam will be given on Thursday, May 8, 2014 at 8AM.

MTH 132: Precalculus with Scientific Applications

Specific Class Information

| | | | |
|----------------------|-----------------|------------------------|--|
| Semester: | Spring 2014 | Instructor: | Dr. Michael Schroeder |
| CRN: | 3121 (201) | Email: | schroederm@marshall.edu |
| Meeting Days: | MTWRF | Office (Phone): | Smith Hall 742F, (304) 696-6643 |
| Meeting Time: | 8:00AM – 8:50AM | Tutoring Lab: | Smith Music 115 |
| Classroom: | Smith Hall 514 | Lab Hours: | Posted outside Smith Music 115 |

Required Text: Larson, Ron. *Algebra and Trigonometry*. (ISBN: 9781133959748)

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

Calculators: No calculators are allowed in this course.

Learning Outcomes, Methods, and Assessment

In this course, there are four primary learning outcomes for students to take away. Each are listed below, along with the means by which students will practice for each outcome, along with the 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 of basic polynomial, exponential, logarithmic, trigonometric, and inverse functions and how to manipulate them;
- ▶ 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;
- ▶ basic counting techniques and probability;
- ▶ 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. Attendance is strongly recommended. Attendance and participation will be key factors in border-line grades getting bumped.

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/S14-Math-132-Schroeder/>

Exams

We will have five mid-term exams and a final exam in this course. Each midterm exam will be worth 125 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. An excused absence as determined by the Office of Student Affairs (location at MSC2W38) will warrant a makeup exam.

Quizzes

There will be short in-classes quizzes at the beginning of class on most days during the semester. Each quiz is worth three (3) points. Your top 50 quiz grades will be added to get your quiz grade for the semester.

Grade Scale

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 | 100 |
| Quizzes | 150 |
| Midterm Exams (125 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.