

SYLLABUS
MTH 100 - Precalculus, Section A
Spring 2017

Instructor: Sofya Chepushtanova (<http://chepusht.mathcs.wilkes.edu/>)

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Class Meetings:

- MWF 12:00-12:50pm, room SLC 405

Office Hours: SLC 410, MW 01:00-02:50pm and F 1:00-1:50pm or by appointment.

Course Description and Objectives: A course in advanced algebra and trigonometry designed to prepare students for calculus. Topics include functions, inverse functions, logarithms, exponentials, and trigonometry.

Students successfully completing this course should:

- Identify various functions, including polynomials, rational functions, functions with radicals, and piecewise-defined functions. Perform transformations on known functions to generate new functions. Construct selected mathematical models based upon these functions.
- Be able to graph and analyze polynomial and rational functions. Solve polynomial and rational equalities and inequalities. Solve real-world problems using these functions in models.
- Find zeros of polynomial, rational, and selected transcendental functions using various theorems and with technology where appropriate.
- Identify one-to-one functions and their inverses both graphically and algebraically. Apply this knowledge to understanding exponential and logarithmic functions. Use these functions to model and solve real-world problems including (but not limited to) continuous interest, exponential growth, and exponential decay.
- Explore the notion of angles and radian measure. Learn the basics of right triangle trigonometry, and define the six basic trigonometric functions. Analyze properties of the graphs of the trigonometric functions, and apply transformations to analyze the graphs of these functions.
- Define and learn the properties of the inverse trigonometric functions. Prove selected trigonometric identities, and solve selected trigonometric equations.
- Solve real-world application problems using trigonometric and inverse trigonometric functions and their associated models.

Text (*optional - purchase not required*):

Fundamentals of Precalculus (2nd edition) by Mark Dugopolski (Pearson, 2009, ISBN 0321506979). An electronic version of the textbook comes bundled with the MyMathLab access, so no physical copy of the textbook is required, unless you prefer a printed textbook.

Required MyMathLab access: We will be using the publisher's online MyMathLab as a resource and as a source for required online homework and quizzes. You will need to purchase an online access code. The instructor's course ID *chepushtanova12948*. This code will give you access to an online electronic copy of the text for the duration of the class. **You must register for the online MyMathLab course by midnight on Friday, January, 27th.** Failure to do so may result in removal from the class roster and dismissal from the course.

Prerequisites: Student must have completed MTH 094 or meet Department of Mathematics and Computer Science placement criteria. In particular, the well-prepared student should already have the ability to:

1. perform order of operations with integers, fractions, and exponents;
2. simplify exponents, including fractional and negative exponents, and radical expressions;
3. solve equations involving linear, absolute value, and radical expressions;
4. determine the slope of a line and write linear equations in various forms and be able to determine when lines are either perpendicular or parallel;
5. know basic geometric concepts for triangles, polygons, and circles, including the Pythagorean Theorem for right triangles;
6. compute the area and volume of standard geometric shapes.

Attendance: Attendance in this class is MANDATORY. Attendance at all classes is expected, and repeated absence is sufficient grounds for failure from the course. I will adhere to the Wilkes University Policy regarding class attendance policies (see the Wilkes Student Handbook). In particular, after five consecutive instructional hours of unexcused absences from a class, students may be readmitted to the class only by action of the Office of Student Affairs and the department chairperson concerned.

Calculator: In this course, calculators can be used as a helpful tool to help analyze functions. However, standard graphing calculators (such as TI-83 or 84) and graphing calculators equipped with CAS (Computer Algebra System) (such as TI-89, TI-92, TI-Nspire, or equivalent) WILL NOT BE PERMITTED for use by students on any semester examinations. Only a standard scientific calculator, for instance, such as TI-30Xa, is permitted (but not required) for use on semester examinations.

MyMathLab (MML) Homework and Quizzes: MML will be used for online homework and quizzes. Homework and quizzes combined will contribute 15% to the final grade. MML contains additional course support materials such as study plan, practice tests, and even video lectures to enhance the learning process.

There will be regular MyMathLab online homework assignments. **Problems are scored immediately and students will be allowed to retry any incorrect homework problem to obtain the correct answer until the due date. Late homework will receive a percentage deduction. Your two lowest homework scores will be dropped.** Note that the introductory MML assignment is not graded, you are recommended to go through it to learn how to use MyMathLab. In addition to online homework, you will also complete online MML quizzes. **Quizzes should be completed after the corresponding assigned homework is completed.**

Quizzes will be timed. Once the allotted time has expired, the quiz will close and your score will be recorded, regardless if it is not complete. **Each student has the option to retake the quiz once in an effort to improve the score. The greater of the two scores will be recorded. Your two lowest quiz scores will be dropped. Because of that, no makeup quizzes will be administered. Be sure to keep track of when the quizzes are due.**

Do not postpone doing your homework and quizzes till the due date. It is suggested that you start your assignments early and submit one day before the scheduled due date to address any technological glitches that might arise in submitting your online work.

Exams: There will be three full period midterm exams (**tentatively** scheduled for 2/10, 3/17, and 4/28), they will contribute 60% (20% each) to your final grade. There will be a cumulative final exam, given during the final examinations week, which will contribute 25% to your final grade. ***Assuming your attendance in class is satisfactory, your final exam grade will be substituted in place of your lowest exam score if it is higher than your lowest exam score.***

No makeups will be given for exams unless there is a documented justification on why the student was unable to take the exam on the specified date. The justification must be approved by me in consultation with the student and the Dean of Student Affairs (if necessary). The student should make every effort to contact me IN ADVANCE if he/she is unable to attend an examination to make such a request.

Grade Distribution: To summarize, your grade in this course is calculated from the following components:

15% (HW and Quizzes) + 60% (3 Exams, 20% each) + 25% (Final) = 100%

and your final grade will be assigned from the total percentage you earn as follows:

<i>Percentage</i>	<i>Grade</i>
90 – 100%	4.0
85 – 89%	3.5
80 – 84%	3.0
75 – 79%	2.5
70 – 74%	2.0
65 – 69%	1.5
60 – 64%	1.0
< 60%	0.0

Work Load: Expect to study at least 8-10 hours outside of class each week. Work smart, study the textbook. Do all homework. Ask questions. Go to office hours. Form a study group of classmates who are also committed to mastering calculus. Mathematics is not a spectator sport, you must practice the skills yourself to learn the material.

Tutoring Resources: Peer tutoring service by the Wilkes University Learning Center is available via tutortrac.wilkes.edu. The Department of Mathematics has its own tutoring service, and you will be informed about tutoring sessions once they are scheduled.

Drop Policy: If you wish to drop from the course, I will give my permission during the first ten weeks of the semester. Thereafter you will need the permission of the Dean. Be aware that poor

performance in the course will not be a sufficient reason for the Dean's permission to be granted.

Academic Honesty: By handing in (submitting) homework, quizzes, and exams you certify that this is your own work. You are encouraged to discuss homework solution strategies with fellow students but the final write-up **MUST BE YOUR OWN**. Misrepresenting someone else's work as your own (plagiarism) or doing MyMathLab problems with the aid of a computer algebra system are examples of cheating. If there is evidence that work you hand in is not your own, the first time you will receive a zero on the exam and the second time you will receive an F in the course. Appropriate deans will also be notified.

Cell Phones: As a courtesy to your classmates and instructor, please refrain from any cell phone activities (including texting) during class time. All cell phones should be silenced during class. Thank you for understanding.

***Tentative Schedule of Lectures (Sections) for Precalculus
Spring 2017 (Dates are Subject to Change)***

1. Week of 1/16: Overview, section 1.5
2. Week of 1/23: Sections 1.6, 1.7, 1.8
3. Week of 1/30: Sections 1.9, 2.1, 2.2
4. Week of 2/6: Section 2.3, review, Exam I.
5. Week of 2/13: Sections 2.4, 2.5, 2.6
6. Week of 2/20: Sections 2.7, 4.1, 4.2
7. Week of 2/27: Sections 4.3, 4.4
8. Week of 3/6: *No classes - Spring Recess.*
9. Week of 3/13: Review, Exam II
10. Week of 3/20: Sections 3.1, 3.2
11. Week of 3/27: Sections 3.3, 3.4
12. Week of 4/3: Sections 3.5, 3.6
13. Week of 4/10: Section 3.7 *No class on Friday - Holiday Recess.*
14. Week of 4/17: Sections 3.8, 3.9
15. Week of 4/24: Review, Exam III.
16. Week of 5/1: Review for final examination (TBA).