

Department of Mathematics, CCNY  
Math 19500: PreCalculus  
Instructor Course Syllabus Fall 2015

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The WebAssign Homework System will be used in all sections. There will be a uniform final examination in all day sections.

Course information for Math19500 students:

This course utilizes the online WebAssign homework system. **Students have a choice** between

- logging in to webassign.net as described below and then paying just \$80 for WebAssign and e-book access, or
- purchasing the above WebAssign/ebook package in the bookstore, or
- purchasing the loose-leaf text (WebAssign access card included) for about \$110 in the bookstore.

How to get started with WebAssign

1. Go to URL [www.webassign.net](http://www.webassign.net) .
2. Click I Have a class key, located under the login button.
3. Enter the three parts of the instructor-provided class key in the three boxes. Then click Submit.
4. If your class is listed correctly, click on Yes this is my class. If not, try again: perhaps you typed the Class Key incorrectly. If you still get the message No, this is not my class, email your instructor.
4. Choose I need to create a WebAssign account and click Continue.
5. Enter your desired username, password (twice) as well as First Name, Last Name, Email address in the appropriate boxes. DO NOT enter a Student ID Number. Click Create My Account.
6. Click Log In Now.
7. If you have purchased a textbook, choose enter an Access Code and click Continue. If not, choose continue my trial period and click continue. Your free trial period lasts about two weeks from that date.
8. Click on Log out at the upper right of the screen.

Remember that students will not be allowed to use calculators on the final examination, and therefore you should hold to an absolute minimum (or zero) the number of calculator-related questions in your homework assignments.

## Syllabus for Math 19500

Text: Stewart-Redlin-Watson pre-Calculus, 7<sup>th</sup> edition  
ISBN 9781305586024 (loose-leaf edition with WebAssign)

Section	Comments	Suggested questions include
1.1 Real numbers	This should be a short review	47-72
1.2 Exponents and radicals	Skip scientific notation.	7-44,49-79
1.3 Algebraic expressions	Students need not memorize factoring difference and sums of cubes.	31-58,63-78,97-113
1.4 Rational expressions	Sometimes helpful to point out the "Avoiding Common Errors" table.	7-75,79-90.
1.5 Equations	On exams students can choose which method to use. Omit Examples 8, 12.	13-33,45-80,87-102, 113-117
1.7 Modeling	Examples 3,4,5 only	35,37,41
1.8 Inequalities	Caution students that an inequality cannot be multiplied by an expression whose sign is unknown, e.g., $x + 3$	13-90
1.9 Coordinate Plane, Circles	Omit graphs, intercepts, and symmetry. Omit Ex: 4-8,12	48,83-104
1.10 Lines	Examples 1-9 only.	23-50
2.1, 2.2 Graphs of functions (omit Graphing calculators)	Students should know the table of basic functions and their graphs on p.166 (OMIT the greatest integer function). Omit Piecewise Functions.	Section 2.1:19-30,35-38,43-50,55-72. Section 2.2:2-28, 33-46.
2.3 Getting Info From Graph	Omit Solving Graphically, omit graphing calculators. Examples 1,2,5, and 8 only	7-10,31-34,43-46
2.4 Average rate of change	Introduce Secant Line	7-26,29-31
2.6 Transformations	Omit even/odd functions.	23-52,63-70.
2.7 Combining functions	Omit Applications. Go over Examples 3,4, and 6 only.	27-58.
2.8 1-1 and Inverses	Omit Applications	31-70,85-90.
3.1 Quadratic functions and models	Omit Modeling	5-44
3.2 Polynomials and Their Graphs	Focus on Examples: 4,5,6,8. Omit Local Max and Min of Polynomials	5-36
4.1 and 4.2 Exponential and Natural Exponential Functions.	Examples 1-5 from sec 4.1 only. Mention that there is a special base $e = 2.718\dots$ which, for technical reasons, is useful in calculus (figures 1 and 2 from 4.2). Explain Horizontal Asymptotes	4.1: 11-42 4.2: 7-16

4.3 Log functions	Omit examples 7,8,11. Explain Vertical Asymptotes.	4,7-44,53-70.
4.4 Laws of Logs	Omit examples 4,5,6 and Change of Base Formula	9-54
4.5 Log and exponential equations	Omit Examples 4,5,6,11,12,13,14. Omit Compound Interest.	3-38,49-68
4.6 Modeling with Exponentials	Exponential Growth(Relative Growth Rate), Radioactive Decay Model and Example 3 Only.	3-9(for ex 9 skip 9a), 11-14,20.
6.1 Angle Measure	Omit Circular Motion	5-70
6.2 Trigonometry of Right Triangles	Omit Calculators	15-44,53,54,58
6.3 Trig Functions of Angles	Omit Areas of Triangles	5-56
5.3 Trig graphs	Examples 1-5 only. Use Radians. Omit Graphing Devices.	5-54
5.5 Inverse trig functions	Examples 1, 3, 4, 5 only. Cover only arcsin, arccos. Emphasize the inconsistency of notation: $\cos^{-1}(x)$ is NOT EQUAL TO $\frac{1}{\cos(x)}$	3-6,10,23,24,31-38,42-46.
7.1 Elementary trig identities		31-94
7.2 Addition and Subtraction formulas	Examples 1-3 only. Focus on Sin and Cos addition formulas..	1,2,3,9,15,25,26,43,47
7.3 Double and half angle formulas	Focus on double and half angle formulas for sin and cos. Examples 1,4,5 only.	17,20,21,22,24,27,37,43,47,51,52,53
7.4 Basic Trig equations	Examples 1,2,5,6 only. Look at old 195 final exams to see how infinite solutions sets are handled.	5-8,13,17-20,25-28,33,37