

MATH 121B, Precalculus Mathematics I, Winter 2010 Walla Walla University

BULLETIN DESCRIPTION: Study of College algebra including integers, rational, real, and complex numbers; equations and inequalities; polynomials; algebraic, exponential, and logarithmic functions. Credit will not be allowed for both MATH 117 and MATH 121. Prerequisite: Satisfactory departmental placement or MDEV 003.

INSTRUCTOR: Dr. Kenneth L. Wiggins, 338 KRH, 527-2088, ken.wiggins@wallawalla.edu

OFFICE HOURS: 2 TuWTh, 3 M, 10 F, Other Office hours by appointment

OBJECTIVES: After finishing this course, the student should be able to

- solve linear and quadratic inequalities and inequalities involving absolute values
- solve linear and quadratic equations and equations in quadratic form
- draw graphs of linear and quadratic equations and linear inequalities
- explain the concepts of a function and an inverse function
- use polynomial, rational, exponential, and logarithmic functions

TEXT: *Precalculus*, 4th ed. by Mark Dugopolski, Pearson Addison-Wesley, 2007, ISBN 0-321-35779-5

ASSESSMENT: All assessment will be based on both correctness and quality including the quality of your presentation.

Category	Weight
Homework & quizzes	15%
Three tests	50%
Final exam	35%

Grade	Percent	Grade	Percent	Grade	Percent	Grade	Percent
A	91-100%	B	83-85%	C	70-74%	D	58-61%
A-	89-90%	B-	80-82%	C-	65-69%	D-	55-57%
B+	86-88%	C+	75-70%	D+	62-64%	F	0-54%

HOMEWORK: The surest way to succeed in MATH 121 is to study each day. To aid you in your study, homework problems will be assigned each day. Most of this homework will be done on the computer, but you will hand in a weekly assignment that you will do on paper. Be sure to show all work neatly and indicate your answers clearly. The weekly assignments are given specifically for you to practice clear and precise presentations. Please fold your paper homework lengthwise and label it as illustrated in the diagram on the right.

QUIZZES: Occasionally quizzes may be given over the lectures and homework.

Isaac
Newton
Math 121
H5
2/22/10

TESTS: Three 50-minute examinations will be given during the quarter. These will cover the lectures and the homework, and you will take these tests without calculators.

FINAL EXAMINATION: This test is scheduled for 10-11:50, Wednesday, March 17. Attendance is required, so make your travel plans early with this appointment in mind.

CLASS ATTENDANCE: Students are expected to attend all classes. In addition, students are expected to give their full attention to the class discussions, and to be courteous, respectful, and supportive of the learning environment. Cell phones, computers, personal organizers, and all other electronic devices are not to be used by students during class. Modifications to the homework assignments or test schedule may be announced in class.

DISABILITIES: If you have a physical and/or learning disability and require accommodations, please contact your instructor or the Special Services office at 527-2366. This syllabus is available in alternative print formats upon request. Please ask your instructor.

SPECIAL CONSIDERATION FOR EXTRA EFFORT: Your lowest test grade will be dropped and replaced with your final examination grade if you meet the following conditions: You must

- Be present, on time, and attentive for at least 37 or the 39 scheduled class sessions
- Turn in at least 95% of the homework on time.
- Make a higher grade on the final examination than you did on your lowest test.

ACADEMIC INTEGRITY: Some collaboration on homework is allowed, but the work you submit for grading must be your own. Any type of cheating on a test or examination, including but not limited to copying another student's work or using unauthorized notes or electronic equipment, will result in a zero grade for the test or a failing grade for the quarter, and possibly further disciplinary action taken by the Associate Vice President for Academic Administration.

TOPICS BY WEEK:

Week 1

- Real Numbers
- Integer Exponents
- Rational Exponents
- Complex Numbers

Week 2

- Polynomials
- Factoring Polynomials
- Rational Expressions

Week 3

- Equations in One Variable
- Mathematical Models
- Equations and Graphs in Two Variables
- Review/catch-up

Week 4

- Test #1
- Lines
- Quadratic Equations
- Absolute Value Inequalities

Week 5

- Functions
- Functions and Graphs
- Transformations and Symmetry

Week 6

- Operations with Functions
- Inverse Functions
- Review/catch-up
- Test #2

Week 7

- Variation
- Quadratic Functions
- Zeros of Polynomial Functions

Week 8

- Miscellaneous Equations
- Graphs of Polynomial Functions
- Rational Functions and Inequalities

Week 9

- Exponential Functions
- Logarithmic Functions
- Review/catch-up
- Test #3

Week 10

- More Logarithms
- Equations and Applications

Week 11

- Final Examination 10-11:50, Wednesday, March 17