Department of Mathematics   Central Washington University

| Math 153 | Pre-Calculus I | Spring, 2009 |

Professor: Dr S.P. Glasby

Course Information

Office:	BU 119 (office hours listed adjacent to door).
URL:	http://www.cwu.edu/~glasbys/
Study guide:	http://www.cwu.edu/~glasbys/TEACHING.HTM
Lectures:	M-F 12 p.m. BU 144, or 1 p.m., BU 111.
Text:	Cohen, Pre-calculus: a problems-oriented approach, 6th Ed., 2005
Assessment:	Maximum(Test 1,Test 3) (10%), Test 2 (40%); Final exam (50%).
Dates:	Test 1 Thu Apr 6; Test 2 Thu May 4 ; Test 3 Thu May 25;
Safari:	http://portal.cwu.edu/ for exam time, and final grades
Help:	Univ. Math. Center Hertz 104; Meisner Hall Multipurpose Room.

Math 153 is the first of a series of two courses on precalculus (Math154 is the second). It aims to introduce students to some basic and ubiquitous mathematics such as solving linear and quadratic equations, graphing functions, understanding polynomial, exponential and logarithmic functions etc. Familiarity with basic algebra and precalculus is essential to every scientific discipline, and quantitative disciplines such as economics, psychology, business. Indeed, such basic knowledge is essential for using spreadsheet macros, reading newspapers, and understanding television programs!

Precalculus I contributes "basic skills" towards your general education program. It requires you to know basic algebra. If you have forgotten it, then review it now! Scoring less that 33 out of 36 on the test http://www.sci.wsu.edu/math/HS/problems.html, indicates that you must review before taking the course! All students should review a list of common mathematical errors at http://www.cwu.edu/~glasbys/, follow the teaching link.

We shall use the graphical calculator TI83 in class. You may use another calculator but you should be self-sufficient in its operation. I will encourage you to perform mental calculations whenever possible, and use the calculator only when it is really necessary. In order to improve quantitative reasoning, the exams will be without calculators. Students who can not quickly and accurately perform simple calculations will be seriously disadvantaged.

We shall cover Chapters 1–5 of the textbook. I should stress though that the lecture notes, not the textbook, form the body of examinable material. I strongly encourage you to read the relevant parts of the textbook *before* attending lectures, review your lecture notes *after* the lecture, and do all the assigned homework problems! The way to become proficient at most skills, from playing violin to learning mathematics, is to practice. Lack of work is a major reason for poor performance in precalculus. You will learn much more doing the exercises yourself than watching an expert solve them

for you! You should spend on average 10 hours per week of private study in addition to the 5 class hours per week.

If you are unable to attend a lecture, make sure you get a copy of the notes from a classmate. I urge you to form your own study groups: you can learn a lot by explaining solutions to a friend, and by hearing solutions. You will find in the Reserve section of the Library: (1) "The pre-calculus problem solver," and (2) "Lecture guide and student notes for Contemporary precalculus: a graphing approach." These have a wealth of worked examples, and can be borrowed for up to 2 hours. The Drop-in Help Lab and the Math/Science Help Center mentioned above is a useful source of help. A list of private mathematics tutors may be obtained from the Mathematics Secretary (BU108). You may also call the Univ. Math Center (509) 963 1834.

After each test I will post adjacent to my office a list of scores and approximate grades, so you can determine your relative position in the class. You should double check the time of the final exam using Safari. The exam will be in our assigned classroom unless otherwise announced.

Students requiring special accommodation, because of a physical or mental disability, should see me in the first week of the course. Also, if you are quite sick or suffer a notable hardship, then please let me know promptly. Claims of lengthy hardship that are disclosed the day before the final exam receive less sympathy. The best way to determine how well you are performing is via your *relative position* in the class – there can be a big difference between students at the top of the C's and those at the bottom. To find out your final grade, log on to Safari.

A brief description of the course content is: real numbers, solving equations algebraically, cartesian coordinates, solving equations graphically, graphing functions, inverse functions, graphing polynomial functions and finding their roots, exponential and logarithmic functions, arithmetic and geometric sequences. The assigned homework will help you to know which sections of the textbook to read before class.

The "course outcome" or "student learning objective" is that passing students have a reasonable mastery of these subjects, and can solve problems theoretically, and when relevant, with the aid of a graphical calculator.

Arithmetic To understand your grade you must understand the following example. If a student scores 30/40 on an exam worth 30% and 20/50 on an exam worth 70%, then the student's final grade is $\frac{30}{40} \times \frac{30}{100} + \frac{20}{50} \times \frac{70}{100} = \frac{50.5}{100}$.

Politeness I would like to request that no student uses cell phones, ipods, computer games, etc during lectures. These all distract others (and yourself), and detract from a respectful learning environment.

Calculators not allowed in exams because (1) all exam problems can be answered with out the aid of calculators if the underlying principles are understood, (2) some problems can be solved with calculators without understanding the underlying principles, and (3) not all students have the same calculator and this introduces biases.