Precalculus

MAT 170		Fall 2012

Instructor:	Office:
SLN :	Office Hours:
Telephone:	E-mail:
MAT 170 URL:	Inst. URL:

Topic Calendar

Week	Week of	Topics Covered	Comments
1	August 20	**Introduction** **1.2: Basics of Functions and Their Graphs**	
2	August 27	**1.3: More on Functions and Their Graphs** **1.6: Transformations of Functions**	**Graphing Calculator Workshops** **(see paragraph below)**
3	September 3	**1.7: Combinations of Functions; Composite Functions** **1.8: Inverse Functions**	**Labor Day Observed, September 3**
4	September 10	**2.1: Complex Numbers** **2.2: Quadratic Functions**	
5	September 17	**2.3: Polynomial Functions and Their Graphs** **2.4: Dividing Polynomials: Remainder and Factor Theorems**	**Exam 1 (1.2—2.2)** **September 19, Wednesday**
6	September 24	**2.5: Zeros of Polynomial Functions** **2.6: Rational Functions and Their Graphs**	
7	October 1	**3.1: Exponential Functions** **3.2: Logarithmic Functions**	**Academic Status Report #1,** **October 1 -- 8**
8	October 8	**3.3: Properties of Logarithms** **3.4: Exponential and Logarithmic Equations**	
9	October 15	**3.5: Exponential Growth and Decay: Modeling Data** **4.1: Angles and Radian Measure**	**Exam 2 (2.3—3.4), October 17, Wednesday** **Fall Break Observed, October 13 --16**
10	October 22	**4.2: Trigonometric Functions: The Unit Circle** **4.3: Right Triangle Trigonometry**	
11	October 29	**4.4: Trigonometric Functions of Any Angle** **4.5: Graphs of Sine and Cosine Functions**	
12	November 5	**4.6: Graphs of Other Trigonometric Functions** **4.7: Inverse Trigonometric Functions**	**Academic Status Report #2,** **November 5 -- 12**
13	November 12	**5.1: Verifying Trigonometric Identities** **5.2: Sum and Difference Formulas**	**Veterans Day Observed** **November 12**
14	November 19	**5.3: Double-Angle and Half-Angle Formulas** **5.5: Trigonometric Equations**	**Exam 3 (3.5—5.2): November 20, Tuesday** **Thanksgiving Day Observed** **November 22—23**
15	November 26	**6.1: The Law of Sines** **6.2: The Law of Cosines**	
16	December 3	**6.6: Vectors** **6.7: The Dot Product**	
17	December 10	**Review**	**FINAL EXAM: Thursday, Dec. 13 at 7:10pm – 9:00pm** **(location announced later)**

ASU Catalog Description: Intensive preparation for calculus (MAT 260, 270, and 290). Topics include functions (including trigonometric), matrices, polar coordinates, vectors, complex numbers, and mathematical induction.

Text: Blitzer, Robert, *Precalculus Essentials, Third Edition for Arizona State University,* Pearson/Prentice-Hall, with a MyMathLab ACCESS CODE. Possible options include the Custom Spiral Textbook with an Access Code, the hardbound textbook with an Access Code, the MAT 170 package including Textbook and MyMathLab, or online access only. When you buy the ACCESS CODE, it links to the online text. The E-book can be found with MyMathLab at www.pearsonmylab.com An ACCESS CODE described in this syllabus in the section headed "**Homework and Quizzes**" will be needed.

Prerequisites: MAT 106 with B or better or MAT 113 or MAT 117 with C or better or ALEKS Math Placement Test with a score of 50% or higher. Students must complete the placement exam before they are eligible to register for this course.

Graphing Calculator: A graphing calculator is required for this course. If you already have a graphing calculator, you may use it. Examples of highly recommended models are the TI 83/84 or TI Nspire CX or Casio Prizm calculators. **Calculators with QWERTY keyboards or those that do symbolic algebra, such at the Casio FX2, Casio 9970Gs, TI-89, TI-92, or HP 50G cannot be used in class or during an exam.** Your instructor may require your attendance at one of the graphing calculator workshops listed here or may offer extra credit for attending.

GRAPHING CALCULATOR WORKSHOP

	Date	Time	Place
TI Calculator	**Thursday, Aug. 30**	**5:00 to 7:00 PM**	**NEEB 105**
	Friday, Aug. 31	**5:00 to 7:00 PM**	**NEEB 105**

Pre-test and Post-test: All precalculus students must take the Pre-Calculus Assessment (PCA) as part of a study for the National Science Foundation, and this needs to be done as pre- and post-test (i.e. early in the semester and again towards the end) to assess student gains. It will not impinge upon class time as it will be done in the Testing Center. Students MUST complete the exam both pre- and post or their course grade will be lowered by one letter grade. The pre-test will count as 1 homework assignment grade for making an attempt to work each problem. The post-test, or "Pre-final Cumulative Evaluation" counts as 5% of your course grade.. The pre-test will be given August 27th through August 29 (during the first full week of the semester). The dates for the post-test or "Pre-final Cumulative Evaluation" will be announced in class at a later time . YOU MAY NOT USE CALCULATORS ON THE PRE-TEST OR POST-TEST.

Attendance: Attendance during class is mandatory. Instructors will take attendance on a regular basis. For classes that meet three days a week (MWF, for example), the maximum number of allowed absences is six (6). For classes that meet two days a week, the maximum number is four (4). For classes that meet on other schedules the number of absences allowed will reflect a similar ratio (two weeks worth of class meetings). Students who exceed the number of allowed absences will receive a grade of EN. The grade, EN, indicates failure in the course because of lack of satisfactory attendance.

Instructor Initiated Drop: At the instructor's discretion, any student who has not attended class during the first week of classes may be administratively dropped from the course. However, students should be aware that non-attendance will NOT automatically result in their being dropped from the course. Thus, a student should not assume he/she is no longer registered for a course simply because he/she did not attend class during the first week. It is the student's responsibility to be aware of his/her registration status.

Final Exam: The final exam will be given on **Thursday, December 13, from 7:10pm – 9:00pm.** Room assignments will be announced in class. There will be no makeup given for the final exam, and no finals will be rescheduled for personal reasons, including non-refundable airplane tickets. (Refer to later page of this syllabus.)

Midterm Exams: You will take three midterm exams during the semester. The best possible preparation for the exams is regular attendance and completion of assigned homework and review problems. These exams must be taken outside of regular class time in the Mathematics Department Testing Center, in PSA 21 (basement). To be admitted to the Testing Center each student must have a valid ASU "Sun Card". **You must arrive 105 minutes before the Testing Center closes in order to be admitted.** The testing center will not allow late entry. You will be asked by your instructor to register in advance for morning or afternoon on the assigned testing day in order to equalize the space available in the Testing Center. Your calculator memory may be viewed during any exam and will be cleared if anything suspicious is noted. The instructor has the right to regard finding suspicious material in your calculator memory as cheating.

Makeup exams: Makeup exams are given at the discretion of the instructor and only in the case of verified medical or other documented emergencies. Notify your instructor before the test is given. Send an email to your instructor or call the Math Department Office (480-965-3951) and leave a message. If the event is not an emergency, you must notify the instructor in advance to request a makeup. The instructor is not required to accommodate you.

Grading Criteria:

Point Allocation	
3 Midterm Exams (No test score will be dropped)	50%
Pre-Final Cumulative Evaluation	5%
Final Exam	20%
Homework, Group work, Quizzes, Projects and Attendance, etc. (as announced in class)	25%

Student Resources:

Tutor Center: The **Math Tutor Center** (http://math.asu.edu/mathtutors) in PSA 116 will be open Monday through Thursday from 8:00am to 8:00pm, Friday from 8:00am to 3:00 pm, and Sunday from 1:00 pm to 6:00pm. Come for help **before** it is too late, and several days **before** an exam day if you need help. In order to be admitted to the Tutor Center each student must have a valid ASU "Sun Card".

Tutor search is the best way for a student to see all the options (tutors/times) at different centers for their course: http://studentsuccess.asu.edu/tutor-search/.

Grade Assignment	
A+	97% +
A	93% – 96.99%
A–	90% – 92.99%
B+	87% – 89.99%
B	83% – 86.99%
B–	80% – 82.99%
C+	77% – 79.99%
C	70% –76.99%
D	60% – 69.99%
E	< 60%

Homework and Quizzes:
- Online homework will be submitted via the internet using the online homework system MyMathLab. The website for MyMathLab is www.pearsonmylab.com. MyMathLab can be operated on **a PC running MS-Windows with access to the MS-Internet Explorer or Netscape or FireFox web browser and on a Mac using FireFox or Safari.** It can be either your own computer or one in any of the ASU computer labs.   In order to register for MyMathLab, you must have an ACCESS CODE and a Course ID. The ACCESS CODE can be purchased with a new textbook or online at www.pearsonmylab.com . ASU's zip code is 85287. Your Course ID number will be announced in your class.
- **No late online homework will be accepted.**
- In addition to completing homework on MyMathLab, the instructor may collect and grade written problems from the text. In addition to the written problems that are assigned, it is recommended that students complete a wide variety of written problems voluntarily to develop competence in the subject. Suggested problems are listed on the last page of this syllabus.
- **No late written homework will be accepted.**
- Students are responsible for reading each section before it is taught in class.
- Quizzes will be given at the discretion of the instructor. To further encourage regular attendance (see attendance policy in this syllabus), instructors need not announce the dates in advance that quizzes are to be given.
- **No late quizzes will be accepted.**
- Two grades recorded from each student's written work will be dropped at the end of the semester.

Departmental and University Policies and Procedures

Course Withdrawal Deadline – In Person and Online	November 7, 2012
Complete Withdrawal Deadline	December 11, 2012

(Note: It is a student's responsibility to ensure that he or she has been officially withdrawn from a class)

Departmental Drop Back: Based on results of a readiness test and advising from the course instructor, a student may elect to drop back to a lower level math course before the drop back deadline. The student should go to the Undergraduate Mathematics Office in PS A211 to initiate a drop back request.

Final Exam Make-up Policy:
   The final exam schedule listed in the Schedule of Classes (http://students.asu.edu/final-exam-schedule#fall) will be strictly followed. Except to resolve those situations described below, no changes may be made in this schedule without prior approval of the Dean of the college in which the course is offered. Under this schedule, if a conflict occurs, or a student has more than three exams on one day, the instructors may be consulted about an individual schedule adjustment. If necessary, the matter may be pursed further with the appropriate dean(s). This procedure applies to conflicts among any combination of Downtown Phoenix campus, Tempe campus, Polytechnic campus, West campus, and/or off campus class.

   Make-up exams will NOT be given for reasons of a non-refundable airline tickets, vacation plans, work schedules, weddings, family reunions, and other such activities. Students should consult the final exam schedule before making end-of-semester travel plans.

The grade of Incomplete: A grade of incomplete will be awarded only in the event that a documented emergency or illness prevents the student who is doing acceptable work from completing a **small** percentage of the course requirements. The guidelines in the current general ASU catalog regarding a grade of incomplete will be strictly followed.

Honor Policy: The highest standards of academic integrity are expected of all students. The failure of any student to meet these standards may result in suspension or expulsion from the University or other sanctions as specified in the University Student Academic Integrity Policy. Violations of academic integrity include, but are not limited to, cheating, fabrication, tampering, plagiarism or facilitating such activities.

The grade of XE: A grade of **XE** is reserved for "failure for academic dishonesty." The grade goes on the student's transcript; the student needs to petition to have it removed after one year.

Disability Accommodations: If you have a disability that needs accommodating, please report this privately to the instructor by the end of the first week of class. You should also contact the Disability Resource Center at (480) 965 – 1234 (voice) or (480) 965 – 9000 (TTY). All efforts will be made to ensure you have equal opportunity to succeed in the course.

Academic Dishonesty: In the "Student Academic Integrity Policy" manual, ASU defines "'Plagiarism" [as] using another's words, ideas, materials or work without properly acknowledging and documenting the source. Students are responsible for knowing the rules governing the use of another's work or materials and for acknowledging and documenting the source appropriately." You can find this definition at http://www.asu.edu/studentaffairs/studentlife/judicial/academic_integrity.htm#definitions Academic dishonesty, including inappropriate collaboration, will not be tolerated. There are severe sanctions for cheating, plagiarizing and any other form of dishonesty.

Classroom behavior: Under no circumstances should you allow your cell phone to ring during class. Any disruptive behavior, which includes ringing cell phones, listening to your mp3 player, text messaging, constant talking, eating food noisily, reading a newspaper will not be tolerated. Students who engage in disruptive classroom behavior may be subject to various sanctions. The procedures for initiating a disruptive behavior withdraw can be found at http://clas.asu.edu/classroom/disruptive.

Student Conduct Statement: Students are required to adhere to the behavior standards listed in Arizona Board of Regents Policy Manual Chapter V – Campus and Student Affairs: Code of Conduct (http://www.abor.asu.edu/1_the_regents/policymanual/chap5/5Section_C.pdf), ACD 125: Computer, Internet, and Electronic Communications (http://www.asu.edu/aad/manuals/acd/acd125.html), and the ASU Student Academic Integrity Policy (http://www.asu.edu/studentaffairs/studentlife/srr/index.htm).

   Students are entitled to receive instruction free from interference by other members of the class. If a student is disruptive, an instructor may ask the student to stop the disruptive behavior and warn the student that such disruptive behavior can result in withdrawal from the course. An instructor may withdraw a student from a course when the student's behavior disrupts the educational process under USI 201-10 http://www.asu.edu/aad/manuals/usi/usi201-10.html.

   Appropriate classroom behavior is defined by the instructor. This includes the number and length of individual messages online. Course discussion messages should remain focused on the assigned discussion topics. Students must maintain a cordial atmosphere and use tact in expressing differences of opinion. Inappropriate discussion board messages may be deleted if an instructor feels it is necessary. Students will be notified privately that their posting was inappropriate.

Note: This syllabus is tentative and should not be considered definitive. The instructor reserves the right to modify it (including the dates of the tests) to meet the needs of the class. It is the student's responsibility to attend class regularly and to make note of any changes.

Suggested Homework Problems from Blitzer's Precalculus Essentials

Section	Homework Problems
1.2	13, 16, 30, 33, 38, 81, 82, 105
1.3	11, 20, 21, 23, 27, 37, 43, 62(a-k), 73
1.6	19, 21, 23, 59, 71, 85, 87
1.7	4, 6, 8, 21, 23, 28, 32, 57, 71, 75, 90, 91, 103
1.8	7, 15, 17, 23, 27, 57, 69
2.1	9, 13, 15, 27, 34, 45
2.2	30, 31, 41, 49, 58, 60, 65
2.3	15, 16, 17, 18, 27, 29, 31, 41, 47
2.4	5, 15, 17, 19, 33, 41, 43, 47
2.5	3, 11, 21, 25, 53, 60, 67
2.6	4, 6, 8, 21, 25, 29, 31, 33, 91, 92
3.1	4, 9, 11, 15, 53, 57, 58, 63, 65
3.2	3, 5, 15, 19, 23, 27, 30, 39, 41, 53, 77, 79, 83, 85, 89, 93
3.3	28, 31, 37, 61, 69, 71, 94, 95, 96, 97
3.4	5, 13, 21, 23, 31, 41, 43, 53, 61, 67, 69, 86, 87
3.5	7, 11, 17, 19, 31
4.1	9, 15, 19, 24, 28, 30, 37, 41, 47, 55, 57, 61, 63, 67, 71
4.2	3, 5, 6, 7, 8, 9, 12, 15, 19, 21, 23, 25, 31, 39, 47, 51, 53, 54, 57
4.3	5, 10, 15, 17, 21, 29, 31, 54, 57
4.4	1, 5, 9, 13, 15, 23, 29, 37, 41, 47, 59, 62, 71, 73, 83, 89
4.5	7, 13, 23, 25, 39, 47, 53, 61
4.6	5, 12, 17, 29, 33
4.7	1, 3, 7, 9, 13, 14, 19, 23, 31, 33, 35, 36, 47, 49, 63, 67
5.1	5, 7, 13, 15, 27, 31, 37, 45, 51, 57
5.2	5, 15, 19, 21, 25, 39, 50, 51, 57
5.3	9, 25, 31, 39, 49, 51, 55
5.5	3, 9, 19, 21, 25, 39, 41, 49, 55, 65, 69, 87, 93, 108
6.1	5, 9, 17, 33, 51, 57
6.2	3, 9, 25, 41
6.6	3, 5, 9, 13, 15, 21, 25, 31, 33, 35, 37, 39, 41, 47, 51, 61, 63
6.7	3, 5, 9, 13, 19, 21, 25, 27, 33, 35

(Homework problems may be added or deleted at the instructor's discretion)