Course Web Site: http://personal.psu.edu/pxd14/22.html

Prerequisites: Math 21 or satisfactory performance on the mathematics placement examination

Text: Carl Stitz & Jeff Zeager, *College Algebra*, 3rd (corrected) Edition. The textbook can be freely downloaded from the course website or directly from:


Description: We will cover most of Chapters 1-6, 7.2 and 7.3 from the textbook.

Learning Objectives: Upon successful completion of Math 022, the student should be able to:
1. Identify and distinguish between relations and functions from graphs and equations
2. Understand function notation, function arithmetic and resulting domains
3. Understand, identify, and determine properties of a function’s graph
4. Know and sketch graphs of basic functions
5. Understand piecewise functions
6. Transform graphs using basic transformations such as shifts, stretches, reflections etc.
7. Understand linear functions and equations of lines
8. Understand quadratic functions, completion of squares and graphs of quadratic functions
9. Solve word problems involving applications of quadratic functions
10. Solve linear and quadratic equations and inequalities
11. Understand absolute value functions and their graphs
12. Solve absolute value equations and inequalities
13. Understand polynomial and rational functions and their graphs
14. Solve polynomial and rational equations and inequalities
15. Understand function composition, one-to-one functions and inverse functions
16. Understand exponential and logarithmic functions, their properties and their graphs
17. Solve exponential equations and inequalities
18. Solve logarithmic equations and inequalities
19. Understand various forms of equations of circles and parabolas
20. Solve word problems involving applications of exponential and logarithmic functions

Grades: There will be three midterms and a comprehensive final examination. In addition to this, there will quizzes and webassign problems assigned throughout the semester. The three lowest quiz scores will be dropped. The final grades will be determined as follows:

<table>
<thead>
<tr>
<th>Quizzes/Webassign</th>
<th>15%</th>
<th>TBA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam 1</td>
<td>20%</td>
<td>Thursday, Sep 14, 7:30 PM – 8:30 PM</td>
</tr>
<tr>
<td>Exam 2</td>
<td>20%</td>
<td>Thursday, Oct 12, 7:30 PM – 8:30 PM</td>
</tr>
<tr>
<td>Exam 3</td>
<td>20%</td>
<td>Thursday, Nov 9, 7:30 PM – 8:30 PM</td>
</tr>
<tr>
<td>Final Exam</td>
<td>25%</td>
<td>TBA (Dec 11-14)</td>
</tr>
</tbody>
</table>

Your total score will translate to letter grades roughly as follows:

90% = A-, 80% = B-, 70% = C, 60% = D, <60% = F
**Make-up Exams:** Students are expected to take examinations at the regularly scheduled times. Students who cannot take an exam as scheduled because of a legitimate university conflict are required to fill out a conflict examination form available on the course website. Students who are unable to take the exam for other valid reasons, such as illness, must contact their instructor and the course coordinator before or on the day of the exam in order to schedule a make-up exam. Note that individual travel plans do not count as legitimate excuses. Any missing exam will result in a grade of 0 for that exam. **There will be no make-up quizzes.**

**Late drop deadline:** Friday, Nov 10

**No Calculators or other electronic devices will be allowed during exams or quizzes.**

**Attendance:** Note that **poor attendance in class usually results in poor performance on quizzes and exams.** You are responsible to get any information and/or notes for a missed class from a classmate.

**Study Tips:** The quiz problems will be selected directly from the list of suggested homework problems. Furthermore, the exam problems will mostly be based on the suggested problems and will be of the same level of difficulty. Hence, to succeed in this course you should do all the suggested problems. Try the practice problems first by yourself before asking for help or looking at solutions.

**Tutoring:** Tutoring is available for this course. For details, inquire at the Learning Resources Center: http://www.altoona.psu.edu/lrc/

**Academic Integrity:** All Penn State policies regarding ethics and honorable behavior apply to this course. Any form of cheating on an exam or quiz will result in a 0 for the grade on that test. Serious forms of cheating will be referred to the appropriate University offices and can lead to suspension or expulsion from the University.

**Disability Services**
Students with a documented disability are required to share their accommodation letter with their instructors and discuss the accommodations with them as early as possible. For more information, please visit the Office for Student Disability Resources located in the Health & Wellness Center: http://altoona.psu.edu/health-wellness

**Counselling & Psychological Services**
The Counseling Center is staffed by licensed counselors who provide both individual counseling and case management services. To schedule an appointment with the Health & Wellness Center at Penn State Altoona, call 814-949-5540 or schedule through the Online Student Access secure portal. In case of an emergency, please contact the Community Crisis Center located at the UPMC Altoona Campus at 814-889-2141 or 800-540-4690. They are available 24 hours a day, seven days a week. You may also contact the Meadows Psychiatric Center at 1-800-641-7529 or Contact Altoona at 814-946-9050.

**Education Equity and Report Bias**
Consistent with University Policy AD29, students who believe they have experienced or observed a hate crime, an act of intolerance, discrimination, or harassment that occurs at Penn State are urged to report these incidents as outlined on the University's Report Bias webpage: http://equity.psu.edu/reportbias/

This syllabus is subject to change. Changes will be announced in class. You are responsible for checking the course website for updates.