Course title: College Algebra I  
Time: TR 4:00pm -5:15pm  
Location: Fisher 0111  
Textbook: Blitzer R., Introductory & Intermediate Algebra, 4th Edition, Pearson Education, Inc., 2013. You are required to buy the textbook, bring it with you to every class meeting, and read the relevant section(s) prior to each class meeting. The textbook is your greatest resource.  
Instructor: Dr. Claudio DiMarco  
Office: 251 Hanley Library (Math Center)  
Office hours: MW 5-6 or by appointment in Math Center  
E-mail: cdimarco@pitt.edu  
Prerequisite: Students are placed in this course based on their SAT/ACT scores and high school record.  
Calculators: Calculators without symbolic algebra capabilities (highest acceptable is TI-84) are permitted for use during exams; however, no sharing of calculators or use of any electronic/technological device that can connect to the internet is permitted during any in class exam.  
Rationale: College Algebra I is the first part of a two term course sequence which serves as a prerequisite for applied calculus (MATH 0136). Students can obtain mathematics competency by earning a grade of C- or better in College Algebra I and II (if no other math course is required for their major). Each portion of the sequence is 3 credit hours.  
Course Goals: The aim of this course is to provide students with an understanding of the real number system, operations on real numbers, basic algebraic concepts and operations-simplifying and factoring-, solving linear and quadratic equations, and solving linear inequalities. It also focuses on linear functions and their graphs.  
Course Objectives for Semester 1: Students will be able to:  

**Introduction to Algebra and the Real Number System (1.1-1.8)**  
1. Classify numbers in the real number system as natural, whole, prime, composite, integer, rational, or irrational.  
2. Order real numbers.  
3. Find the absolute value of a number.  
4. Add, subtract, multiply, and divide real numbers.  
5. Evaluate numerical expressions (which also include exponents) using order of operations.  
6. Evaluate algebraic expressions.  

**Linear Equations and Inequalities in One Variable (2.1-2.5, 2.7)**  
7. Solve linear equations in one variable.  
8. Translate English statements to mathematical statements using variables to represent unknown quantities.  
10. Solve linear inequalities.  

**Linear Equations in Two Variables (3.1-3.5)**  
11. Plot points in the Rectangular Co-ordinate System/graph mathematical relationships.  
12. Find solutions of equations in two variables.
13. Graph linear equations using point plotting, intercepts
14. Graph vertical and parallel lines.
15. Compute the slope of a line.
16. Use the slope and y-intercept to graph non-vertical and non-parallel lines.
17. Use slope to identify parallel lines.
18. Use graphs of linear equations to solve problems.
19. Find the equation of a line.

**Systems of Linear Equations (4.1-4.4)**
20. Solve systems of linear equations by graphing.
21. Solve systems of linear equations using the substitution method.
22. Solve systems of linear equations by the addition method.
23. Solve simple interest, mixture, and motion problems using systems of equations.

**Exponents and Polynomials (5.1-5.7)**
24. Add and subtract polynomials (starting with monomials).
25. Multiply polynomials (including polynomials in several variables).
26. Divide polynomial (including long division and synthetic division).
27. Find the degree of a polynomial.
28. Simplify expressions involving integer exponents.
29. Change decimal notation to scientific notation and vice versa.

**Factoring Polynomials (6.1-6.6)**
30. Find the greatest common factor (GCF).
31. Factor polynomials using GCF.
32. Factor polynomials by grouping.
33. Factor trinomials.
34. Factor the difference of two squares, perfect square trinomials, and the sum or difference of two cubes.
35. Solve quadratic equations by factoring.

**General Methodology:** Lecture /Discussion /Demonstration /Cooperative activities-small groups /Problem solving

**Math Center:** The Math Center is located in room 251 Hanley Library and is open and available for tutoring M–R 9am-5pm and F 9am-3pm. Students should make appointments on TutorTrac (http://tutortrac.upb.pitt.edu) before visiting the Math Center.

**Evaluation:**
1. **Midterm Exams:** 3 exams will be administered during class throughout the semester.
2. **No make-up exams will be given under any circumstances.** If you miss an exam and if you provide a signed, written excuse from a physician or appropriate university official within 48 hours of the end of the exam, then your score for that exam will be determined by the relevant portion of the final exam. If you miss an exam and fail to provide such an excuse, then you will receive no credit (zero) for that exam.
3. **Quizzes:** Each Thursday (at the beginning of class) there will be a quiz on the material that was covered on the preceding Tuesday. Each quiz is worth 10 points, and your lowest 2 quiz scores will be dropped. **No make-up quizzes will be given under any circumstances.** Any missed quiz counts as 0.

4. **Homework:** Homework will be assigned every class and will be due before the beginning of the following class. Since class starts at 4:00pm, homework is due in Fisher 0111 at 3:59pm each Tuesday and Thursday, except on the first day of class and exam days and classes immediately following exam days. **No late homework will be accepted under any circumstances.** Any missed homework assignment counts as 0. Your lowest 2 homework scores will be dropped. Aside from assigned homework problems, you are expected to know how to solve all the problems provided in the list found below the “tentative schedule” in this syllabus.

5. **Final exam:** The final exam will be cumulative. The date and time for your final exam are listed in the course outline.

6. **Class participation:** Based on class attendance and visits to the Math Center. Attendance will be taken every class meeting. **If your attendance is perfect other than excused absences,** then you will be eligible to gain 10 bonus points on each of the midterm exams. To redeem these 10 bonus points, you are required to obtain a voucher from the Mathematics Center (251 Hanley) and hand in that voucher to the instructor at least one time **prior** to each of the three scheduled in class exams. To get a voucher, you will be required to complete problems related to important concepts from class. These problems will be provided by the Mathematics Center and must be completed during the visit. Once these problems have been completed, the Center will provide the student with the voucher, which will be attached to these problems. The voucher must be **presented to the instructor prior to the scheduled exam** in order to receive the 10 bonus points on that exam. Vouchers turned in after this deadline will not be accepted. It is in your best interest to visit the Mathematics Center as often as needed for your success in this course, not simply for the vouchers.

7. **Course grade:**
   - Quizzes: 10%
   - Homework: 25%
   - Midterm exams: 3 @ 15% each
   - Final exam: 20%
## Tentative Schedule

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<th>Week</th>
<th>Tuesday</th>
<th>Thursday</th>
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<tr>
<td>1</td>
<td>1.1</td>
<td>1.1 – 1.2 &amp; Quiz 1</td>
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<td>1.2 – 1.3</td>
<td>1.4 – 1.5 &amp; Quiz 2</td>
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<td>3</td>
<td>1.6 – 1.7</td>
<td>1.8 &amp; Quiz 3</td>
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<td>2.5 – 2.6</td>
<td>2.7 &amp; Quiz 5</td>
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<td>3.1 – 3.2 &amp; Quiz 6</td>
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<td>3.3 – 3.4</td>
<td>3.5 &amp; Quiz 7</td>
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<td>4.1 – 4.2</td>
<td>4.3 &amp; Quiz 8</td>
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<td>9</td>
<td>4.4</td>
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<td>5.1 – 5.2</td>
<td>5.3 – 5.4 &amp; Quiz 9</td>
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<td>5.5 – 5.6</td>
<td>5.7 – 6.1 &amp; Quiz 10</td>
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<td>6.2</td>
<td>6.3 – 6.4 &amp; Quiz 11</td>
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<td>14</td>
<td>Exam 3</td>
<td>Thanksgiving</td>
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<td>15</td>
<td>Review for Final Exam</td>
<td>No Class</td>
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### Finals Week

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<td>1.4-1.5</td>
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<td>2.4-2.5, 2.7</td>
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<td>Page 165-167: 1-34 odd, 41, 43, 49, 53</td>
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3.1 Page 220-221: 1-44 odd, 45, 49, 55, 60, 77
3.2-3.4 Page 231-232: 1-46 odd, 47, 51, 59, 65, 69
   Page 241-243: 1-26 odd, 29, 35, 36, 43, 61
   Page 251-252: 1-38 odd, 43, 49, 55, 60, 67
3.5, 4.1 Page 262-264: 1-28 odd, 29, 39, 43, 47, 51, 63, 73
   Page 285-287: 1-42 odd, 45, 49, 67, 71
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   Page 360-362: 1-34 odd, 37, 41, 49, 55, 65, 71, 77, 81, 95, 115
5.3-5.5 Page 369-371: 1-62 odd, 67, 71, 75, 81, 85, 87, 112
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   Page 387-390: 1-36 odd, 37, 47, 59, 71, 81, 85, 99
5.6-5.7 Page 401-402: 1-40 odd, 41, 45, 53, 57, 65
   Page 414-416: 1-28 odd, 37, 45, 59, 69, 75, 81, 87, 101, 107, 109, 111, 119, 123, 141, 151

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   Page 442-443: 1-42 odd, 47, 57, 67, 71, 75, 93
   Page 449-450: 1-58 odd, 59, 63, 77, 85, 93
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   Page 479-481: 1-55 odd, 59, 61, 91

### Final Exam – Tuesday, April 21, 2015

8:00 – 10:00 am
Letter grades will be assigned according to the following:

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**General Statement of Student Responsibilities:**

“As a student at Pitt-Bradford, you have been given the opportunity to study and earn your University of Pittsburgh degree. As a university that takes teaching and learning seriously, Pitt-Bradford prides itself on being a “community of learners.” By this, we mean that all of us – students, faculty and staff – take active roles in the teaching and learning process. One cannot be a passive learner at Pitt-Bradford.”

(Student Handbook, 2009-2010)

In addition to the requirements as outlined for this particular course, as a member of the faculty responsible for carrying out the “community of learners” mission, I understand you as a Pitt-Bradford student to have the following responsibilities:

1. While faculty and academic support personnel are readily available to teach guide and assist you, the primary responsibility for learning and your education is yours.

2. While all faculty, academic advisors, and academic support personnel are available to assist you, it is your responsibility to communicate with your advisor and/or course instructor when necessary, and it is your responsibility to be familiar with all relevant university policies and processes.

3. While many students must maintain multiple responsibilities, including work and family, it is your responsibility to make academics – to the greatest degree possible – your highest priority.

4. While a full university experience should include cultural, social and recreational endeavors, it is your responsibility to manage your time such that as a rule, several hours of work outside the classroom are available for each hour of class time.

**Classroom Civility:**

*Every student brings to the classroom a unique point of view. Everyone has different experiences and different backgrounds. We tend to think and learn in our*
own way, based in part on our own social and cultural background. Therefore, we have all formed opinions and perspectives that may or may not be shared by others. However, we should all treat each other with respect and decency. In this course, we may look at controversial topics that can provoke strong responses. While I encourage students to engage in discussion about such, I also expect all students to do so with civility, respect, and integrity.

To establish a comfortable learning environment, we must have mutual respect and civility. This includes coming to class on time, not disrupting the class with cell phones or pagers, and discussing things in an academic, rather than a personal manner. While in class, don’t talk, read non-course material, listen to headphones, or catch up on sleep. Please don’t start packing up when there is still time left as it won’t get you out any quicker. Let’s all be well-mannered, kind to one another, have fun, and learn!

**Academic Integrity:**

Members of the University community, both faculty and students, bear a serious responsibility to uphold personal and professional integrity and to maintain complete honesty in all academic work. Violations of the code of academic integrity are not tolerated. Students who cheat or plagiarize or who otherwise take improper advantage of the work of others, face harsh penalties, including permanent dismissal. Incidents of forged signatures that are associated with any academic endeavor at Pitt-Bradford, in addition to being a criminal offense, are viewed as violations of academic integrity. The academic integrity guidelines set forth student and faculty obligations and the means of enforcing regulations and addressing grievances. Violations of academic integrity will be tracked by the Dean of Academic Affairs. Refer to the Pitt-Bradford Student Handbook for general guidelines on academic integrity. Copies of the complete Guidelines on Academic Integrity are available in the Office of the Dean of Academic Affairs (232 Swarts Hall.)

**Students with Disabilities:**

If you have a documented learning, physical or emotional disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and the Disability Resources and Services coordinator, Carma Horner (clh71@pitt.edu, 202 Hanley Library, 814-362-7609), as early as possible in the term. DRS will verify your disability and determine reasonable accommodations for this course.