Math 1428 - 084: College Algebra With Applications

Summer 2015
Tuesday, Thursday 10:00 AM - 12:50 PM
BIC 1536

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Office Hours: Tuesday & Thursday: 9 AM - 10 AM, 1:00 PM - 2:00 PM

Text and Materials:
College Algebra: Graphs and Models, 5th ed. by Bittinger, Beecher, Ellenbogen, Penna

Course Content:The study of algebra with emphasis on applications. Topics include, but are not limited to, matrices, functions, conic sections, polynomials, exponential and logarithmic functions, and sequences and series.

Course Goals:

1. Determine the domain and range of relations and functions
2. Use function notation
3. Analyze graphs to determine maximum and minimum values of a variety of relations and functions
4. Analyze graphs to determine when functions and relations are increasing or decreasing, and where their zeros are
5. Determine the composite of two functions and the inverse of a one-to-one function
6. Construct the graphs of conic sections
7. Solve systems of linear equations
8. Perform matrix arithmetic
9. Determine the inverse of a nonsingular matrix
10. Solve exponential and logarithmic equations
11. Apply properties of logarithms
12. Determine the terms of a sequence
13. Determine specific and general terms in artihmetic and geometric sequences
14. Solve a variety of applicatoin problems relating to topics covered.

Classes: Students are expected to attend class and PARTICIPATE. Students are responsible for all material covered in each class. Quizzes and exams will be held during class time.

Homework: Homework will be assigned every class. While not every single problem may be completed every week, students need to spend time and at least attempt every assigned homework problem to master the material and be prepared for quizzes and exams. Homework problems may appear on quizzes and exams. If you do all the assigned homework and still do not feel comfortable with the material, you should complete even more problems than were assigned. Completing the homework does not guarantee you will perform well on exams.

Quizzes: Quizzes will be given in every class when there is no exam. Each quiz consists of one or two problems. They should take no more than 20 minutes and are intended as a "spot check" for students to know how well they understand the material without outside references. They may be administered at the beginning, middle or end of class and might be on any class day. Two of the lowest quiz grades will be dropped when computing the final grade. Quizzes are graded out of 10 points. If you receive a 7 or lower on a quiz, then chances are the same question would earn you 0 points on an exam. Low quiz scores are a warning that you MUST work harder on that material.

Exams: There will be three (3) midterms and a final exam given in the course. All exams will be comprehensive and students should expect to be asked about all material leading up to that exam. No material covered on an exam day will appear on that exam. Any conflicts of exam dates must be discussed with the instructor at least one full day prior to the exam date.

Technology: Graphing calculators are allowed and will be necessary on certain quizzes and exams. Preferably the TI-82, 83, 84, or 86 will suffice. No device which has the potential for two-way communication (laptop computers or cell phones) will be allowed. No TI calculator above the TI-86 will be allowed either.

Grading:

Quizzes	150 Points
Exams	100 Points Each
Final Exam	200 Points
Total	650 Points

To compute the final total quiz grade, drop the lowest two quiz grades. Total up the remaining scores and call this number S. Next, subtract 2 from the number of quizzes taken and then multiply by 10. Call this number Q. Your quiz score will be $S \times \dfrac{150}{Q}$.

In general,

A	B	C	D	F
585 and up	$585 - 520$	$455 - 520$	$390 - 455$	Below 390

Written Style: Student should practice and use good style when answering problems. That means that any answer which requires an explanation should be written in complete sentences, all mathematical notation should be consistent and make sense, and anybody reading the solutions for the first time (namely, the grader) should have no confusion as to both the final answer and the work involved to get there. For example, "$1 + 1 = 2$" is a complete sentence. It has a subject $(1 + 1)$, a verb $(=)$ and an object (2).

Since some work must be done on a calculator, the student must include a brief explanation of what work was done on the calculator to receive the solution. Any answer written with no accompanying explanation will NOT receive full credit.

Academic Integrity: Students should be aware of the Code of Academic Conduct and know the consequences should the code be violated. The document can be found at *www.cod.edu/dept/boardpolicy/5050pr.doc*.

Attendance Policy: Students are expected to attend every class and to understand material for classes they miss. Quizzes CANNOT be made up. NO exam will be given after the exam day. If the student has a valid excuse with a valid written note explaining the emergency (at the instructor's discretion) for missing an exam, then a grade on a future exam may count towards the missed exam as well. This is not an ideal situation and should be avoided. Do not miss class! While in class, students should be respectful of other students as well as the instructor. Students should not distract others with their computers or cell phones. Any distractible cell phone use should be done outside the classroom. All communication between instructor and students will be conducted either through Blackboard or via a COD email account. Make sure you check your COD email regularly.

Center for Access and Accommodations: Students who require any type of special accommodations for access and participation in this course must be registered with the Center for Access and Accommodations, SSC 3249.

Tentative Course Calendar

Monday	Tuesday	Wednesday	Thursday	Friday
June 8th	9th **1** Algebra Review, Functions & Graphs: §R, §1.1-1.2	10th	11th **2** Linear Functions and Applications §1.3-1.6	12th
15th	16th **3** Function Algebra, Symmetry §2.1-2.4	17th	18th **4** **Exam 1** Function Transformations, Applications §2.5-2.6	19th
22nd	23rd **5** Complex Numbers, Quadratics, Quadratic Graphs §3.1-3.3	24th	25th **6** Rational, Radical, Absolute Equations, Polynomial Functions §3.4-3.5, §4.1-4.4	26th
29th	30th **7** Rational Functions, Inverse & Exp Functions §4.5, §5.1-5.2	July 1st	2nd **8** **Exam 2** Log Functions & Properties §5.3-5.4	3rd
6th	7th **9** Log & Exp Equations, Systems of Equations §5.5-6.2	8th	9th **10** Matrices and Matrix Operations §6.3-6.4	10th
13th	14th **11** Matrix Inverses, Parabolas §6.5-7.1	15th	16th **12** **Exam 3** Circles, Ellipses, Hyperbolas §7.2-7.3	17th *Last Day to Withdraw*
20th	21st **13** Nonlinear Systems, Sequences and Series §7.4, §8.1	22nd	23rd **14** Arithmetic & Geometric Series §8.2-8.3	24th
27th	28th **15** Binomial Theorem §8.7 Final Exam Review	29th	30th **16** **Final Exam**	31st