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Syllabus Attachment. OSU has compiled useful information that applies to all classes at
http://osu.okstate.edu/acadaffr/aa/syllabusattachment-Fall.htm
This website includes add/drop/withdrawal dates, university holidays, accommodations for students with disabilities, academic resources, and much more. You are responsible for reading this information now and having any questions answered.

Introduction. Most of you have studied some level of algebra in your high school mathematics courses - probably Algebra I and Algebra II. In the process of learning lots of rules for manipulating symbols, did you ever stop to ask yourself - or anyone else - questions like "What IS Algebra?" "Where did the word 'algebra' come from?" "What good is algebra?" "Where will I ever use it?" Thinking about these questions is a good place to begin our study of College Algebra.

It is believed that the word "algebra" had its origin in the work of the Arabian mathematician, *Mohammed ibn Musa Abu Djefar Al-Khwarizmi*. His work holds an important place in the history of mathematics; through it the Arabic or Indian system of decimal numeration was introduced into Western culture. The work is named *Al-gebr we'l mukabala: al-gebr*, from which the word "algebra" is derived. *Al-gebr* refers to the fact that the same magnitude may be added to or subtracted from both sides of an equation; *al mukabala* means the process of simplification and is generally used in connection with the combination of like terms into a single term. Because "algebra" involves operations on sets of numbers that are often represented by symbols, it is regarded as the *language of mathematics*. Being well-grounded in algebra will enable you to continue your study of mathematics in a meaningful and successful manner.

So, what is College Algebra and how does it differ from the algebra courses I studied in high school? Good question! In high school algebra, you were primarily concerned with learning to use the rudiments of algebra - skills, procedures, and manipulations; you were developing "language skills" in mathematics. In College Algebra, we are concerned with building on these skills as they apply to functions and real world applications. College Algebra can be thought of as "the study of functions." One of the goals of this course is that you appreciate functions and the role they play in mathematics.

In this course, we will build upon your previous studies in algebra; throughout, I have given great attention to reinforcing what you have already learned with what is new. This is exciting - you are growing mathematically! We begin by studying some familiar functions - linear and quadratic - and then move on to some very special functions - polynomial, rational, exponential, and logarithmic. On our journey, we will explore applications of these functions in the world around us. In the final portion of the course, we will study systems of equations and conic sections and see how these mathematical notions are applied.

This study of College Algebra involves the use of technology - namely, the graphing calculator; it has been carefully integrated into the delivery throughout. Technology can be a tremendous aid in learning mathematics <u>only if</u> it is used *appropriately*. Technology is not a "quick fix" to learning functions or any mathematics! Because of the importance of technology today, a goal of the course is that you are comfortable with it and that you know when it is *appropriate* to choose it in learning mathematics. I think you will find technology is a great asset in learning mathematics.

This study of College Algebra involves reading mathematics for meaning and modeling mathematical applications. Among the academic deficiencies regularly observed by instructors of entry level mathematics courses are the problems that students have with (1)

Notes.   1.   Final grades will not be curved.
                2.   Your class attendance record will be reported along with your course grade.
                3.   *At the end of the semester*, your Attendance/Participation Score (100 points maximum) will be used to replace any one of the three (3) examination scores or <u>one</u> of the two (2) Final Examination scores provided it improves your letter grade *and* you earned at least one passing grade on these assessments. The Attendance Score will not be used to replace a homework score.

Examinations. There will be three (3) fifty-minute examinations with a maximum possible score of 100 points each and a 100 point comprehensive final examination which will be recorded twice. *Make-up examinations* will be given only for very **serious and unavoidable** conflicts, and *only if* your request to present a make-up examination is approved by your instructor **in advance**. If this condition is not satisfied, it is understood that the opportunity to present a make-up examination is voided. In the instance that a make-up examination is appropriate, it will be given the last day of Finals Week during the period scheduled for make-up exams. Bring your student ID to each examination.

      Exam Dates. Our exams will be held on the following dates; mark your calendar NOW!. I will announce which sections they cover at least two class periods in advance.

          Exam 1: Wednesday, September 22, 2010
          Exam 2: Wednesday, October 27, 2010
          Exam 3: Wednesday, December 1, 2010
          Final Exam: Wednesday, December 15, 2010 from 8 a.m. to 9:50 a.m.

Homework Grade. All <u>homework</u> will be collected and selected problems will be graded. Homework must be turned in during class on the date it is due; you must be present for the entire class session to turn in homework. The staff in the mathematics office has been instructed not to accept homework papers. <u>NO LATE HOMEWORK WILL BE ACCEPTED BY THE INSTRUCTOR</u>. There is a total of 110 points possible on the eleven (11) homework assignments; however, your homework grade will not exceed 100 points.

Homework assignments must be submitted in the following manner:
1.   Your name will be prominently displayed on each page.
2.   Textbook page and problem numbers will be prominently displayed.
3.   Problems will be submitted in the order in which they were assigned.
4.   The pages will be stapled together.
5.   You must show all work to receive credit.
If these conditions are not met, your work will not be evaluated; it will be returned to you with the assigned grade of 0.

MLRC: Mathematics Learning Resource Center - The MLRC is an invaluable resource to support your mathematical learning. They are located on the 4th floor of the Classroom Building (420 CLB, 405-744-5818). For more information, visit the MLRC website at www.math.okstate.edu/mlrc, or call 405-744-5818 or 405-744-5688.

Attendance/Class Participation Score. Daily attendance is critically important. It is difficult, and sometimes impossible, to succeed in a college course without regular attendance. To encourage good habits, I will allow attendance, participation, and MLRC participation to improve your grade. Based on how often you attend and participate in class and on how often you get help in the MLRC, you will be assigned an "Attendance/Participation Score." Throughout the semester, you may earn an Attendance/Participation Score of up to 100 points. This optional

Note. Signing the class Attendance Sheet for another student is not permitted; if it is determined that a student signed in for another student, this unethical conduct will be regarded as a violation of Academic Integrity and the appropriate University policies will be employed. Of course, you won't get anything out of the class if you are there physically but not mentally or if you are unprepared. If you do not actively participate in the class activities, your attendance/participation grade will suffer, even if you have few or no unexcused absences. In addition, if you have not completed the necessary preparation for class, you will lose attendance points. Simply showing up to class is not enough.

Because of the value I place on our class sessions as active learning opportunities, I ask that you assume responsibility for being physically present no later than time the class is scheduled to start, e.g., 8:30 am. If you do miss a class session, you are responsible for finding out what you missed from a classmate, including any announcements and notes from class discussions. I also realize that you may have a class that follows this one; I will dismiss each class session promptly at time the class is scheduled to end, e.g., 9:20 am.

Drop and Withdrawal Policy (General University Policy 2-0206). "Dropping" means withdrawing from a specific course while "withdrawal" means withdrawing *from all courses* and leaving the University for the balance of the term. The drop and withdrawal dates are noted on the attached calendar. IT IS YOUR RESPONSIBILITY TO KNOW AND COMPLY WITH ALL DEADLINES. Reasons similar to those listed below will NOT result in approval for dropping a course after the deadline (from OSU Policy 4.03):
  a. Student's lack of knowledge or misunderstanding of the deadline.
  b. Student waited to get the results of an exam or other assignment.
  c. Student's grades have declined since the deadline.
  d. Student doesn't need the course for graduation.
  e. Different deadlines existed at a previous school.

Incomplete Grade. The grade of "I" is given to students who satisfactorily completed the majority of the course work and whose work averages "D" or better, but who have been **unavoidably** prevented from completing the remaining work of the course. A condition that the students must repeat the course in order to remove the "I" is not permitted. The maximum time allowed for a student to remove an "I" is one calendar year.

Academic Integrity. The university has explicit rules governing academic integrity. Please consult the OSU Fall 2008 Syllabus Attachment mentioned above on the web.

Working with another person or in study groups on problems can be helpful in learning the material. I encourage you to work together if you find it helpful. However, **all written and on line work submitted must be your own**. Copying someone else's problem solution, showing your written solution to someone else, or having another person complete your on line work is prohibited; such behaviors are regarded as violations of academic integrity and will be treated according to the University's policy. In order to be successful in learning the material and doing well on the examinations you must think very hard about the problems themselves **before** discussing them with anyone else.

Special Accommodations for Students. "If you think you have a qualified disability and need special accommodations, you should notify the instructor and request verification of eligibility for accommodations from the Office of Student Disability Services. Please advise the instructor of your disability as soon as possible, and contact Student Disability Services, to ensure timely implementation of appropriate accommodations. Faculty have an obligation to respond when they receive official notice of a disability but are under no obligation to provide retroactive accommodations. To receive services, you must submit appropriate documentation and complete an intake process during which the existence of a qualified disability is verified and reasonable

Week	Date, HW Due dates	Section/Topic	Hw Page	Suggested Homework
1	Aug 23 Mon	Course Introduction/Overview		
		R.1 The Real-Number System	7	12-57 multiples of 3
		R.2 Integer Exponents, Sci. Notation, Order of Oper.	15	3-7 mu.tiples of 3
	Aug 25 Wed	R.3 Addition, Subtraction, and Multiplication of Poly.	22	6-51 multiples of 3
		R.4 Factoring	30	3-120 multiples of 3
	Aug 27 Fri	R.5 The Basics of Equation Solving	34	3-69 multiples of 3
		R.6 Rational Expressions	43	9-39 multiples of 3
		R.7 Radical Notation and Rational Exponents	52	3-57 multiples of 3
2	8/30	1.1 Introduction to Graphing	75	9-12, 17-20, 63-66, 79-86,95,96,107-112
	9/1	1.2 Functions and Graphs	91	15-36, 40-41, 59-62, 74-77
	HW1 Due (R1 - R7)			
	9/3	1.3 Linear Functions, Slope & App	110	1, 2, 5, 6, 11-15, 29-32, 42, 43, 57-60, 69, 70
3	9/6	No Class, Labor Day		
	9/8	1.4 Equations of Lines and Modeling	124	1, 2, 7, 8, 13-16, 23-26, 31, 32, 43-46, 68, 69
	HW2 Due (1.1-1.3)			
	9/10	1.5 Linear Equations, Functions, Zeros, and Apps	143	1-6, 19-22, 29-32, 37, 38, 45, 46, 50, 51, 63, 64, 71-74
4	9/13	1.6 Solving Linear Inequalities	154	1-4, 13-20, 33-36, 43, 44, 55-58
	9/15	2.1 Incr., Decr., and Piecewise Functions	175	1, 2, 13-24, 27, 28, 36, 37, 47-50
	HW3 Due (1.4-1.6)	2.2 The Algebra of Functions	187	1-4, 11-14, 17-20, 29-32, 45-48, 57-62
	9/17	2.3 The Composition of Functions	196	1-4, 9-16, 23, 24, 27, 28, 31-34
5	9/20	Review		
	9/22	Exam 1		
	9/24	2.4 Symmetry and Transformations	214	7-12,27,28,39-42,49,50,53,54,59,60,67,68,71,72,85,86,97-100
6	9/27	2.5 Variation and Applications	224	1-6, 13-19, 25-28, 38, 39
	9/29	3.1 The Complex Numbers	242	1-4,11-14,31,32,35,36,39,40,45,46,51 52 61,62,75,76,83 84
	HW4Due(2.1-2.5)			
	10/1	3.2 Quadratic Eqs., Functions, Zeros and Models	257	1-4 8,9,16-19,21,22,35-38,55,56,61,62, 69,70,85,86,95,96,102,103
7	10/4	3.3 Analyzing Graphs of Quadratic Functions	272	3-6, 11-14, 21-24, 31-34, 41, 42, 49, 50-52
	10/6	3.4 Solving Rational and Radical Equations	282	1-4, 19-25, 37, 38, 45, 46, 55, 56, 63, 64, 70, 71
	HW5 Due (3.1-3.3)			
	10/8	3.5 Solving Eqs. and Ineqs. with Abs. Value	287	1, 2, 11-14, 25, 26, 29, 30, 43-46, 51, 52, 73-76
8	10/11	4.1 Polynomial Functions and Modeling	307	1-4, 23, 24, 27-30, 39, 40, 43-46, 51,52, 57, 58, 62, 65,66
	10/13	4.2 Graphing Polynomial Functions	321	1-4, 7-14, 33-36, 49-52
	HW6 Due (3.4-3.5)			
	10/15	No Class, Fall Break		
9	10/18	4.3 Poly. Division; Remainder and Factor Thm	329	1, 2, 5-8, 11-14, 23-26, 31-34, 49, 50
	10/20	4.4 Theorems about Zeros of Poly. Functions	339	1-4, 13, 14, 25, 26, 33, 34, 43-46, 49, 50, 55-58, 71, 72, 79, 80
	HW7 Due (4.1-4.3)			

Week	Date, HW Due dates	Section/Topic	Hw Page	Suggested Homework
11	11/1	5.1 Inverse Functions	389	1-8, 33-36, 59-66, 83-86
	11/3 HW 8 Due (4.4-5.1)	5.2 Exponential Functions and Graphs	403	43, 44, 47-60, 63,64
	11/5	5.3 Logarithmic Functions and Graphs	423	9-12, 23, 24, 29-32, 35-38, 45, 46, 69-72, 75, 76, 92, 94-96
12	11/8	5.4 Properties of Log Functions	433	1, 2, 9, 10, 17, 18, 23-26, 35, 36, 43-46, 53-56, 59,60, 65, 66, 89, 90
	11/10 HW9 Due (5.2-5.4)	5.5 Solving Exponential and Log Functions	444	1-4, 25-32, 51, 52, 60-65, 79-84
	11/12	5.6 Growth and Decay; Compound Interest	455	1-3, 7, 8, 13-18
13	11/15	Catch up and Review		
	11/17 HW10 Due (5.5-5.6)	6.1 System of Equations in 2 Variables	483	7-10, 17-20, 33-36, 53, 54, 59-62, 65, 66, 69, 70
	11/19	6.2 System of Equations in 3 Variables	494	1, 2, 17-20, 23, 24
14	11/22	6.7 Systems of Ineqs. and Linear Prog.	545	9-12, 19-22, 43-46, 51, 52, 65, 66, 71, 72
	11/24	No Class, Thanksgiving		
	11/26	No Class, Thanksgiving		
15	11/29	Review		
	12/1 HW11 Due (6.1-6.2, 6.7)	Exam 3		
	12/3	7.2 The Circle and Ellipse	582	7-10, 19-26, 31-34, 37, 38, 41, 42
16	12/6	7.3 The Hyperbola	592	7-15, 25-28, 37, 38, 39, 40
	12/8	7.4 Nonlinear Systems of Eqs. and Ineqs.	603	7-26
	12/10	Catch up and Review for Final		
Dec 7 - 11		Final Exam - Comprehensive Add day and time for your sections.		The date and time of the final is set by the university. It cannot and will not be changed. See the OSU website for dates and times.