Math 1513, College Algebra — Spring, 2012

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E-Mails. **All e-mails must include, on the subject line**, your first and last name and when the class meets (i.e., John Doe, MWF 9:30). If this information is missing, **the e-mail will not be read**. Emails asking questions that are answered in your syllabus **will not be answered**. In addition, **grades will never be discussed over email**. You must come to my office if you have a question about your grade.

Cell Phones. Turn cell phones off during class. Cell phones are **not allowed out at any time** during class except under unusual circumstances and only when cleared in advance by the instructor. Use of cell phones, including texting, will result in an absence for the class period.

Syllabus Attachment. OSU has compiled useful information that applies to all classes at
http://academicaffairs.okstate.edu/faculty-a-staff/46-syllabus-attachment
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.

Course Prerequisites. I assume you have completed the second course in the high school algebra curriculum, Algebra II, or Intermediate Algebra (MATH 0123). Further, I assume some minimal familiarity with a graphing calculator such as the Texas Instruments TI-83.

Course Objectives. To learn college-level algebra as discussed above; to complete the college mathematics requirement for further study of mathematics and of mathematically dependent subjects.

Required Textbook Package and Supplies.

- ***Textbook Package***. You are required to have the textbook package for the course which consists of the textbook *College Algebra - Graphs and Models (4th edition)* by M. Bittinger, J. Beecher, D. Ellenbogen, and J. Penna. Addison Wesley Longman, Inc. , 2009 and the manual *Graphing Calculator Manual* by J. Penna, 2009.
- ***Graphing Calculator***. You are required to have a graphing calculator for this course. I will be using a TI-83 Plus graphing calculator for class demonstrations. You may check out a TI-83/TI-83 Plus graphing calculator from the Mathematics Department (401 MS) for use during the semester while the supply lasts; there is NO charge.

MLRC: Mathematics Learning Resource Center.
Location: Fourth Floor, Classroom Building
Learning Aids/Services: Tutoring, Videotaped lectures, Microcomputers with mathematics software.

Examinations. A student shall be offered reasonable accommodation in the event that he or she misses a major assessment activity for a valid and documented reason. There will be three (3) fifty-minute exams with a maximum possible score of 100 points each and a 100 point comprehensive final exam which will be recorded TWICE. There will be **NO MAKE-UP EXAMS** in this course. If one exam is missed, the score on the final will replace the missed exam score **only if you request and obtain approval from me for this in advance** of the exam and only for very **serious and unavoidable** conflicts. If this condition is not satisfied, a grade of zero will be recorded for the missed exam. If a second exam is missed, it will receive an automatic zero. In addition, you must **bring your OSU student ID to each examination**. No

hats are allowed during any exam. Once you have begun an exam, you are NOT to leave the room at any time. If you leave the room, your exam will be picked up and scored as finished.

Homework Grade. Selected problems will be graded. In addition to problems selected from the book, homework assignments may include a question that you must answer from the syllabus. This question will be given in class and NOT over email. There will be 10 homework assignments worth 11 points each, for a total of 110 points available on homework. The homework grade cannot exceed 100 points. The extra ten points is a buffer for those who have unusual circumstances or simply forget a homework paper, as **no homework will be accepted late, regardless of the circumstances**. Homework assignments must be submitted in the following manner:

1. Homework must be turned in during or before the class period on the date it is due.
2. Your name and section number should appear prominently on each page in the upper right hand corner. In addition, you wil have a **class assigned number (appearing on the roll sheet) which should appear on EVERYTHING and should be written and circled in the upper right hand corner.**
3. Textbook section and problem numbers (in order) must be clearly displayed.
4. The question assigned ONLY in class, from your syllabus, must be **listed first**.
5. The remaining problems should be submitted in the order in which they were assigned.
6. The pages should be **stapled** together (graders take points off for failure to do this!)
7. You must **show all work** to receive credit.
8. NO LATE HOMEWORK WILL BE ACCEPTED BY THE INSTSRUCTOR OR THE FRONT OFFICE, regardless of the reason.
9. You may NOT turn your homework in at the main math department office without my permission.

If these conditions are not met, your homework will be returned to you with a grade of 0.

Participation Points. You may earn up to 100 Participation Points. These points may be used to replace your lowest score on the first three exams or 100 points of the final exam. The points may be used to replace only one exam score and may NOT be used to replace your homework grade. The participation point score is made up of two components: MLRC points and Class Attendance/Participation. This is not mandatory, but is usually very beneficial to your final grade.

1. **MLRC points (60 points maximum)** are earned by taking advantage of the MLRC.
   You may earn MLRC points in the following ways:
   2 MLRC points for each 30-59 minutes spent at the MLRC in one sitting.
   4 MLRC points for each 60+ minutes spent at the MLRC in one sitting.
   IMPORTANT:
   You may not earn more than 4 points in any one day.
   Points will not be given if your MLRC visit is during class time.
   You may achieve a maximum of 60 MLRC points during the semester.
   Identify yourself with your OSU Student ID as a College Algebra Student (and section #) to insure that your points are recorded properly.
   The MLRC will keep a record of your points and report them to your instructor. **You should keep a log of your visits to the MLRC, recording the dates and times you were there for your own protection.**
   Those working on ALEKS Learning Modules are not allowed to count that time as Participation Points. To earn your MLRC points, you MUST spend additional time at the MLRC.
   These points are added in automatically after you have taken the final exam.
2. **The Class Attendance/Participation Score (40 points maximum)** is achieved by your regular class attendance **and** participation. Experience has shown a definite correlation between poor class attendance/participation and low grades. Attendance will be taken during each class session. A roll sheet will be passed around each class session for you to sign AND a head count will be taken. It is YOUR responsibility to sign the roll. Failure to do so will be an absence and **cannot be disputed at a later date**. In order to receive the extra points for participation, you must be present for the entire class session and attentive to the instruction. Coming to class more than 5 minutes late and leaving early will result in an absence. You must be awake, not using a cell phone, not reading a paper (etc.), participating in in-class

work and not disruptive to the instructor or the students around you in order to be counted as present. Each class period you will be given an opportunity to work on specific problems. **Full participation in this opportunity is expected** in order to be considered present and "participating." The instructor makes the final decision on your "participation." You will be allowed one "free" absence. For each additional absence, 4 points will be deducted from the maximum of 40 points. Since **attendance is for extra credit only**, there are **No Excused Absences,** so do not bring notes or send emails with excuses for absences. Extra credit cannot be expected to be given for attending class if you are not in class.

Your Participation Score is the sum of your MLRC and your Class Attendance/Participation Score.....100 possible points.

Course Evaluation. Course grades will be determined according to the following distribution.

		Letter grades will be assigned as follows:	
Homework	100 pts	568 – 632 points	A
Exam 1	100 pts.	505 – 567 points	B
Exam 2	100 pts.	442 – 504 points	C
Exam 3	100 pts.	379 – 441 points	D
ALEKS EXAM	32 pts.	0 – 378 points	F
Final	100 pts.	**Grades will not be curved.**	
Final	100 pts.		
Total:	632 pts.		

Again, the Participation Points (100 points maximum) may be used to REPLACE the lowest of the three exam scores or one hundred points of the final exam, provided it improves the student's grade (this is done automatically by computer AFTER the final exam). These points may not be used to replace a homework score. Note: Perfect scores on homework and 100 participation points do not guarantee a passing grade in this course. **Grades are NOT adjusted for personal needs such as scholarship eligibility, activity requirements, financial aid requirements, graduation, etc.**

Class Records: For your own protection, each student should **keep all graded work during the semester**, as well as **a log of MLRC visits (times and dates).**

Drop and Withdrawal Policy (General University Policy). "Dropping" means withdrawing from a specific course while "withdrawal" means withdrawing from all courses and leaving the University for the balance of the term. 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 university deadline (OSU policy).

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. The conditions including appropriate time limits for the removal of the "I" are indicated on the official class roll by the instructor. 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 2011 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 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 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 your 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." (OSU Fall 2011 Syllabus Attachment)

Final Note. Any changes in this syllabus will be communicated to you in class by the instructor.

Week	Date, HW Due dates	Section/Topic	Hw Page	Homework Problems
1	1/9	Course Introduction/Overview R.1 The Real-Number System R.2 Integer Exponents, Sci. Notation, Order of Oper.	 7 15	 12-57 multiples of 3 3-57 mu.tiples of 3, 75
	1/11	R.3 Addition, Subtraction, and Multiplication of Poly. R.4 Factoring	22 30	6-51 multiples of 3 3-120 multiples of 3
	1/13	R.5 The Basics of Equation Solving R.6 Rational Expressions R.7 Radical Notation and Rational Exponents	34 43 52	3-69 multiples of 3 (omit 66) 9-39 multiples of 3 3-57 multiples of 3
2	1/16	No Class, MLK Day		
	1/18 **HW1 Due (R1 -R7)**	1.1 Introduction to Graphing	75	9-12, 17-20, 63-66, 79-86,95,96,107-112
	1/20	1.2 Functions and Graphs	91	15-36, 40-41, 59-62, 74-77
3	1/23	1.3 Linear Functions, Slope & App	110	1, 2, 5, 6, 11-15, 29-32, 42, 57-60, 69, 70
	1/25 **HW2 Due (1.1-1.3)**	1.4 Equations of Lines and Modeling	124	1, 2, 7, 8, 13-16, 23-26, 31, 32, 43-46, 68, 69
	1/27	1.5 Linear Equations, Functions, Zeros, and Apps	143	1-6, 19-22, 29-32, 45, 46, 50, 51, 63, 64, 71-74
4	1/30	1.6 Solving Linear Inequalities	154	1-4, 13-20, 33-36, 43, 44, 55-58
	2/1	Review		
	2/3 **HW3 Due (1.4-1.6)**	**Exam 1** (R1-R7, 1.1-1.6)		
5	2/6	2.1 Incr., Decr., and Piecewise Functions 2.2 The Algebra of Functions	 175 187	 1, 2, 13-24, 27, 28, 47-50 1-4, 11-14, 17-20, 29-32, 45ab, 46ab
	2/8	2.3 The Composition of Functions	196	1-4, 9-16, 23, 24, 27, 28, 31-34
	2/10	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	2/13	2.5 Variation and Applications	224	1-6, 13-19, 25-28, 38, 39
	2/15 **HW4Due(2.1-2.5)**	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
	2/17	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
7	2/20	3.3 Analyzing Graphs of Quadratic Functions	272	3-6, 11-14, 21-24, 31-34, 41, 42, 49, 50-52
	2/22 **HW5 Due (3.1-3.3)**	3.4 Solving Rational and Radical Equations	282	1-4, 19-25, 37, 38, 45, 46, 55, 56, 63, 64, 70, 71
	2/24	3.5 Solving Eqs. and Ineqs. with Abs. Value	287	1, 2, 11-14, 25, 26, 29, 30, 43-46, 51, 52
8	2/27	Review		
	2/29 **HW6 Due (3.4-3.5)**	**Exam 2** (2.1-2.5, 3.1-3.5)		
	3/2	4.1 Polynomial Functions and Modeling	307	1-4, 23, 24, 27-30, 39, 40, 43-46, 51,52, 57, 58, 62, 66
9	3/5	4.2 Graphing Polynomial Functions	321	1-4, 7-14, 33-36, 49-52
	3/7/2011 **HW7 Due (4.1 - 4.2)**	4.3 Poly. Division; Remainder and Factor Thm	329	1, 2, 5-8, 11-14, 23-26, 31-34, 49, 50
	3/9	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
10	3/12	4.5 Rational Functions	357	7-16, 21, 22, 27, 28, 57, 58, 63, 64
	3/14	4.6 Polynomial and Rational Inequalities	368	25-28, 33-38, 47, 48, 53, 54, 58
	3/16	5.1 Inverse Functions	389	1-8, 33-36, 59-66, 83-86

Week	Date, HW Due dates	Section/Topic	Hw Page	Homework Problems
11	3/19	Spring Break		
	3/21	Spring Break		
	3/23	Spring Break		
12	3/26	5.2 Exponential Functions and Graphs	403	43, 44, 47-60, 63,64
	3/28 **HW 8 Due (4.3-5.2)**	5.3 Logarithmic Functions and Graphs	423	9-12, 23, 24, 29-32, 35-38, 45, 46, 69-72, 75, 76, 92-96 even
	3/30	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
13	4/2	5.5 Solving Exponential and Log Functions	444	1-6, 29-32, 51, 52, 63-65
	4/4/2009 **HW 9 Due (5.3-5.5)**	**Exam 3** (4.1-4.6,5.1-5.5)		
	4/6	5.6 Growth and Decay; Compound Interest	455	1-3, 7, 8, 13-15, 17
14	4/9	6.1 System of Equations in 2 Variables	483	7-10, 17-20, 33-36, 53, 54, 59-62, 65, 66, 69, 70
	4/11	6.2 System of Equations in 3 Variables	494	1, 2, 17-20, 23, 24
	4/13	6.7 Systems of Ineqs. and Linear Prog.	545	9-12, 19-22, 43-46, 51, 52, 65, 66, 71, 72
15	4/16	7.1 The Parabola	572	7-10, 15-18, 21-24, 31. 32
	4/18/2010 **HW10 Due (5.6-7.1)**	7.2 The Circle and Ellipse	582	7-10, 19-26, 31-34, 37, 38, 41, 42
	4/20	7.3 The Hyperbola	592	7-15, 25-28, 37, 38, 39, 40
16	4/23	7.4 Nonlinear Systems of Eqs. and Ineqs.	603	7-26
	4/25	Catch up and Review for Final		
	4/27	Review/ question and answer time		
	Apr 30 - May 4	**Common Final Exam - Comprehensive** **Tuesday, May 1 at 12 - 1:50 PM**		The date and time of the final is set by the universtity. It cannot and will not be changed.