Texas A&M International University
College of Arts and Sciences
Department of Engineering, Mathematics, and Physics
MATH 1314, College Algebra, Fall 2012
Course Syllabus

Section/Time:_____ ALEKS Section Code:_____
Instructor: _____
E-mail: _____ Office: _____
Office Hours: _____

Course Description: The fundamentals of algebra; polynomials and graphs; conic sections; systems of linear equations, matrices; sequences and series; mathematical induction and the binomial theorem. Prerequisite: Freshman standing. A THEA score of 250 is required for students who do not have an ACT Math score of 19 or above or an SAT Math score of 450 or above.

MATH 1314 provides the algebraic background necessary to enter MATH 1316, MATH 1324, MATH 1333, MATH 1342, and MATH 1350.

Student Learning Outcomes: Upon successful completion of this course, the student will be able to:

1. set up and solve polynomial, rational, radical, exponential, and logarithmic equations and inequalities of one variable, and systems of linear and non-linear equations two or more variables,
2. sketch the graphs of equations and inequalities,
3. perform operations of complex numbers and solve equations,
4. perform operation of matrices and apply matrices to solve problems, such as systems of linear equations,
5. perform the expansion of the positive integer power of a binomial,
6. compute the general term of a sequence, and be able to add the terms of a geometric and an arithmetic sequence,
7. identify functions from algebraic, graphical, tabular, and verbal expressions and apply them to solve problems,
8. derive theorems and formulas such as quadratic formula, distance formula, equation of circles, and remainder and factor theorems, and
9. prepare and submit a final paper using phrases commonly found in mathematical literature.

Core-Curriculum Learning Outcomes:

1. Critical Thinking: includes creative thinking, innovation, inquiry and analysis, evaluation, and synthesis of information. (SLOs: 1, 3, 5, & 6)
2. Communication Skills: Students will demonstrate their ability to communicate effectively by using *written* communication. (SLOs: 2, 4, & 9)
3. Empirical and Quantitative Skills: includes the manipulation and analysis of numerical data or observable facts resulting in informed conclusions. (SLOs: 7, 8, & 9)

Textbook: College Algebra, Ninth Edition by Raymond Barnett, Michael Ziegler, Karl Byleen, and Dave Sobecki, McGraw Hill (Science/Engineering) Companies, 2011 (ISBN No. 0077350162)

Prerequisites: Freshman standing. A THEA Math score of 250 is required for students who do not have an ACT Math score of 19 or above or an SAT Math score of 450 or above. However, students without an adequate preparation in high school mathematics will have difficulty in this course. Furthermore, conscientious students with solid mastery of the material of high school mathematics are expected to be able to succeed in a subsequent course and may be promoted to a more advanced mathematics course.

Class and Attendance Policy: The course consists of lectures and ALEKS lab classes. Students are required to attend the lecture regularly (by University Policy), to read the textbook and class notes for comprehension, and to work problems for understanding. Each hour of lecture requires two hours of preparation on the part of the average student. It is the students' responsibility to learn the material; the instructor's job is to offer help and guidance.

Tentative Class Schedule:

Week of:	Lectures	Sections	ALEKS Tutorials	Important Dates
8/20/12	Introduction Numbers, Linear Equations, and Applications	Ch. R, 1-1	Registration and the Initial Assessment. Linear Equation and Inequalities in Algebra Review Slice (and more)	8/23 (R) First Class Day
8/27/12	Linear Inequalities, Graphing Equations, and Equations of a Line	1-2 , 2-1, 2-3	Relations and Functions, Linear Functions in Functions and Graphs Slice	8/29 (W) Final Late Registration Day
9/3/12	Absolute Value, Radical Expressions, Complex Numbers, and Applications	1-3, 1.4, Ch. R	Polynomials and Exponents (Algebra Review Slice) Quadratic Equations (Polynomial and Rational Functions Slice)	9/7 (F) Last Day courses may be dropped without record **Quiz 1**
9/10/12	Quadratic Equations, Quadratic Functions, and Equations involving Radicals	1-5, 1-6, 3-4	Quadratic Equations and Complex Numbers (Polynomial and Rational Functions Slice)	
9/17/12	Functions	3-1	Relations and Functions in Functions and Graphs Slice	**First Midterm Exam**
9/24/12	Graphing, Transformations, and Combining Functions	3-2, 3-3, 3-5	Relations and Functions in Functions and Graphs Slice	**Quiz 2**
10/1/12	Composition and Inverse Functions, Equations of a Circle, and Conic Sections	3-5, 3-6, 2-2, Ch. 6	Composition of Functions in Conic Sections Slice	
10/8/12	Systems of Linear Equations and Gauss-Jordan Elimination	7-1, 7-2, 7-3	System of Linear Equations and Matrices Slice	
10/15/12	Systems of Linear Equations and Gauss-Jordan Elimination	7-6	System of Linear Equations and Matrices Slice	10/18-20 (M-S) Mid Semester Break; No Classes **Quiz 3**
10/22/12	Gauss-Jordan Elimination (cont'd), Matrix Operations, Inverse Matrices, and Matrix Equations: Determinants and Cramer's Rule	7-3, 7-4, 7-5	Matrices in System of Linear Equations and Matrices Slice	**Second Midterm Exam**
10/29/12	Sequences and Series and Binomial Formula	8-1, 8-3, 8-6	Sequences, Series, and Probability Slice	10/31 (W) Mid-term Grades due

11/5/12	Exponential and Logarithmic Functions and their Models	5-1, 5-2, 5-3, 5-4	Exponential and Logarithmic Functions Slice	11/9 (F) Last Day to drop a course or withdraw from the University **Quiz 4**
11/12/12	Exponential and Logarithmic Equations and Polynomial Functions, and Zeros	5-5, 4-1, 2, 3	Polynomial and Rational Functions Slice	Faculty Evaluations
11/19/12	Rational Functions	4-4	Polynomial and Rational Functions Slice	11/21-24 (W-S) Thanksgiving Holidays
11/26/12	Rational Functions and Inequalities	4-4	Polynomial and Rational Functions Slice	**Quiz 5**
12/3/12	Review for Final Exam begins		Final Assessment	12/4 (T) Last Class Day 12/5 (W) Reading Day 12/8 (S) **Final Exam: 11:00 am – 2:00 pm**

ALEKS: is a powerful artificial intelligence-based assessment-enabled learning tool that zeros in on the strengths and weaknesses of a student's college algebra knowledge, reports its findings to the student, and then provides the student with a learning environment for bringing this knowledge up to a level appropriate to succeed in college algebra. Students are required to work on ALEKS regularly during the semester. It is strongly recommended to work three hours per week. Students can work on ALKES tutorial anywhere, but it is encouraged to work on ALEKS at the TEMA Lab (Cowart Hall 112). Quizzes, tests and assessments on ALEKS must be taken place at the TEMA Lab.

It might be necessary to make changes in the order in which the syllabus topics are covered or examination dates. If so, these will be announced during the lectures, on Angel homepage, or by TAMIU and ALEKS e-mails. It is students' responsibility to be aware of any such announcements. Excessive absence and not working on ALEKS without notifying the instructor/coordinator may result in lower grades.

Dropping the Course: Stopping attendance does not mean dropping the course. It is students' responsibility to drop the course by contacting the Registrar's Office. The final date to drop a course is Friday, November 9, 2012. No request to drop is accepted after this date.

E-mail: Students are required to have TAMIU e-mail address. To get TAMIU email, visit TAMIU Email for Life for Students and Alumni (http://students.tamiu.edu/) to set up your account now.

Angel: There will be a class homepage on Angel, where you can get class information such as, class notes, grade, announcement, etc. To login to Angel,
1. visit TAMIU home page at http://www.tamiu.edu,
2. click ``eLearning (Angel)" on the left side bar,
3. click ``logon to Angel" on the left side bar,
4. input the username and password. The username and password are the same as the TAMIU email.
Students are required to visit at least once on weekdays.

TEMA Computer Lab: Located at Room 112 in Cowart Hall, walk-in tutoring is offered to students working practice problems on ALEKS. There are trained tutors in the Lab to help students. Instructors

may hold some of their office hours at TEMA Computer Lab.

Supplemental Instruction Session: Each section of College Algebra will have a supplemental instruction (SI) session. Students meet one hour per week in addition to the regular class meeting. With trained SI-leaders, students can discuss practice problems including ALEKS, prepare for the exams, and do more. SI-leaders will take survey at the beginning of the semester for the most effective schedule to the section. Before the exams, there will be extra intensive review session will be offered. Students are encouraged to attend the SI-sessions and will earn extra credits by fully participation of the SI-sessions.

Assessments: Requirements include quizzes, paper and journals, taking notes, the ALEKS tutorials and assessments, midterm exams, and the common final exam.

1. There will be two (2) midterm exams. Each exam may be administrated by paper-and-pencil or ALEKS or both. The comprehensive final exam consists of both paper-and-pencil (scheduled on Saturday, December 8, 2012 from 11:00 am to 2:00 pm) and ALEKS (final assessments, administrated in the 15th week). It is very important to take the exams at the scheduled times. Make-up exams may be given for ones missed due to unavoidable circumstances and compelling reasons which are documented in writing. If you have a conflict or a medical problem, discuss your situation with the instructor/coordinator as soon as possible. Exam room will be announced towards the end of Fall 2012.

2. **Students must register their ALEKS accounts for the semester and take the initial assessment in TEMA lab during the first week.** See the handout "How to Register ALEKS" attached to this syllabus for more information. Students will receive credit upon successfully completing the registration and the initial assessment by 3:00 pm on Friday, August 31, 2012.

3. As soon as each section is covered in class, **students should work practice problems for that section on ALEKS tutorial**. An intermediate objective and its due date will be announced by the course coordinator via ALEKS. Students will receive full credit (10 points) upon mastering *all* items in the designated intermediate objectives by the due date, 9 points for 90% or higher, 8 points for 80%-89%, and so on. If students fails to master 60% (no more than 5 points), then their ALEKS hour grade will be calculated (one (1) point every 30 minutes, up to six (6) points) and they receive the better one of the tutorial grade or the ALEKS hour grade. If students' tutorial grade is below 8 points, their tutorial grade will be replaced by 8 points only if students master *all* items within a week after the due date. The lowest tutorial grades will be dropped to calculate the final course grade.

4. There will be quizzes on paper or ALEKS or both. The lowest quiz grades may be dropped to calculate the final course grade. Ask your instructor for detail.

5. There will be projects, papers and/or journals assigned for the course grade. Occasionally students may be asked to submit their class notes. Ask your instructor for detail.

6. Students will earn extra credits by fully participating the class and SI-sessions.

Final Course Grade Calculation:

Type of Assessment	Percentage	Detail
ALEKS registration and initial assessment	2%	By completing by Friday, August 31, 2012
Two midterm exams	35%	17.5% each (paper, ALEKS or both)

ALEKS tutorial (homework)	10%	TAMIU computer labs or at home
Quizzes	8%	May drop lowest
Final paper	10%	
Final exam	35%	Paper only or paper 25% and ALEKS 10%
Total	100%	
Class participating	extra 5%	
SI-session participation	extra 2.5%	

Grading Scale: A: 90-100% B: 80-89% C: 70-79% D: 60-69% F: 0-59%

Calculator: No personal calculator is allowed during the ALEKS potion of the exams. Only the built-in calculator may be used. Ask your instructor if you may use a calculator in class/exams.

University Learning Center (ULC): The primary function of ULC is to develop, implement and evaluate services specifically designed to enhance learning. ULC provides tutoring in most subjects other than writing and strives to make a positive difference in the lives of the students, staff and community. Another important function of ULC is to serve as a professional resource agency for assistance in the critical area of the university's recruitment and retention efforts. Further, the ULC assists the university by working directly with local schools and students to help them prepare for university level work. The ULC serves as a place where students, from first-year college students to graduate/professional school students, become more efficient and effective learners. Our programs and services encourage the full academic participation of all TAMIU students and provide a "learning community" for the development and reinforcement of study skills needed to succeed and flourish in TAMIU's competitive educational environment. Visit ULC homepage at http://www.tamiu.edu/uc/ulc/ for details. Tutoring Center is located at Room 205 in Cowart Hall, walk-in tutoring is offered to students in mathematics, history and other subject areas.

Special Arrangement: Texas A&M International University is committed to providing reasonable accommodations in compliance with the Americans with Disabilities Act (ADA). If you require academic accommodations, or you suspect that you may have a disability, contact Student Counseling Services (Disability Services Coordinator) located at University Success Center (USC) room 138B.

How to Register ALEKS: All students in MATH 1314 College Algebra must have their ALEKS account for this semester. The accounts for the previous semesters are not valid. Even if you have such an account, you have to register for a new ALEKS account for this semester. Setting up an ALEKS account consists of registration, brief tutorial, and initial assessment. It takes about 90 minutes for average students to complete it. You must complete all of the following processes. Otherwise, your account will be suspended.

1. Go to the TEMA Computer Lab (Cowart Hall 112) and tell your name and section to the lab-coordinators and/or TA's. Bring pen(cil)s and paper with you. (However, for any assessment session including the initial assessment, paper will be provided by the TEMA Lab Staff. All papers used during an assessment/quiz/exam must be returned to TEMA Lab staff for collection and delivery to the instructor.)
2. Find your name in the course file settled in the lab. If your name is not in the list, ask the lab-coordinator or course coordinator immediately.
3. Open web-browser (FireFox is recommended) and visit www.aleks.com.
4. Click “SIGN UP Now!” on the left upper corner.
5. Input your course code into the boxes in the left column titles “Using ALEKS with a class?” The 10-character course code is provided by your instructor. Then click “continue”.
6. Input your access code into the designated boxes. The 20-character access code will be given to you by the

lab coordinator for use and indicate your agreement. Then click “continue”.

7. Input your name, university ID number, and your TAMIU e-mail address, Read the terms and conditions. Then click “continue”.
8. Record your login name and password of ALEKS given by ALKES. You can change your password. During the semester, use this login name and password for ALEKS. Then click “continue”.
9. A brief tutorial starts. Follow the step-by-step instructions of ALEKS.
10. You see “**Now it's time for a new assessment...”** Then click “next”.
11. Read the directions carefully and click “next”.
12. Your initial assessment starts now.
13. You have approximately 25 problems in the assessment. You are not allowed to ask any questions about the assessment problems from the lab coordinators/TA's. If you do not know the problem, do not hesitate to click “I do not know” button.
14. Finish the assessment during the session. If you leave the lab before finishing the assessment, even if you are running out of time, your account will be suspended. To recover the suspended account, contact the Course Coordinator.
15. After finishing the assessment, you will see ALEKS pie on your screen. This completes the registration process. Now you can leave or continue working with ALEKS to review the assessment.

If you have any questions in registration for ALEKS, contact the Course Coordinator. Once you finish the initial assessment, you can start your tutorial or homework anytime and anywhere if a computer and internet access is available. See the weekly tutorial guide for ALEKS your assignment.

This schedule is subject to change.
August 23, 2012