

MATH 090: Pre-Algebra with Study Skills and Learning Strategies

Spring Semester 2010

1.5 Credits – Not applicable towards graduation

January 18 – March 5

<u>Section:</u>	<u>Room:</u>	<u>Times:</u>
001	MRC 316	MWF 9 – 9:50 a.m.
002	MRC 316	MWF 10 – 10:50 a.m.

Midterm/Final Exam:
Completion of ALEKS Course Pie or exam during class period on last day of class.

Instructor: Elizabeth Gaedy (Math Specialist – Learning Center)

Contact Information: Office: MRC 332, Phone: 796-3192, Email: emgaedy@viterbo.edu, Office Hours: 8:30 – 4:30 By Appt.

Course Description: Math attitude, study habits and preparation for tests. Math timeline and biography. Math learning style. Time management and scheduling. Math anxiety. Whole numbers, integers and introduction to algebra. Fractions and equations, applications of fractions and equations. Decimals, percents, ratio, rate and proportion. Order of operations. Introduction to statistics.

Offered first half of each semester, with option to repeat second half of same semester. Taken for “Credit” or “No Credit”. “Credit” awarded for completion of course on ALEKS, or 70% or higher on midterm exam. “Credit” required to take 091.

Note: This course serves as a pre-requisite for MATH 091, which is a pre-requisite for MATH 111 (Intermediate Algebra), MATH 130 (Introductory Statistics), or MATH 155 (Mathematics, A Way of Thinking).

REQUIRED MATERIALS:

ALEKS Student Access Code: Purchased online using a credit card. Instructions are at the end of this syllabus.

- If you don't have access to a credit card, you can purchase a “Green Card” pay-as-you-go Visa credit card at Walgreens. There will be a \$10 activation fee charged in addition to the amount you “deposit.”
- The access code can be purchased at the bookstore, but you will need to pay \$93.25 rather than the \$63 online fee.

There is no required textbook.

Course Goals and Student Outcomes:

1. Students will demonstrate their readiness for learning algebra.
 - (a) Students will take ALEKS assessment.
 - (b) Students will work through pre-algebra ALEKS modules indicated as necessary.
2. Students will improve their mastery of algebraic skills.
 - (a) Students will take ALEKS assessment of algebra knowledge and skills.
 - (b) Students will work through the ALEKS modules indicated as necessary.
 - (c) Students will take indicated exams to demonstrate their learning.
3. Students will develop their ability to apply algebraic thinking and procedures to problem solving.
 - (a) Students will work through the ALEKS modules that focus on problem solving.

Course Procedures and Policies:

MATH 090: Math 090, “Pre-Algebra with Study Skills and Learning Strategies”, is a not-for-graduation-credit course intended to prepare students for the various courses for which 090 and 091 (the next course in this sequence) are a pre-requisite, namely MATH 111 (Intermediate Algebra), MATH 130 (Introductory Statistics), and MATH 155 (Mathematics, A Way of Thinking). This course should be a refresher course for you, as the material would have been covered in high school basic math and Algebra 1/Algebra 2 classes, which explains why this course is numbered 090, and why the 1.5 credits you will earn here do not count toward graduation, even though they do count toward full-time status. If you did not complete Algebra 1 or Algebra 2 in high school, you will find this class more challenging. Each student should be prepared to commit **at least 5 hours each week** working on the ALEKS program, through a combination of in-class and out-of-class time online.

Your placement score indicated that you have not mastered this content, whatever the reason. To make the best of the situation, your goal here must be to learn this material and master the necessary skills so that you can be successful in the courses you eventually need to take as part of your college program.

ALEKS: ALEKS (Assessment and LEarning in Knowledge Spaces) is a web-based program designed to carefully assess what students know and what they are ready to learn, and then to methodically tutor them in the given material, in this case Pre-Algebra. After registering, you will begin by going through a brief tutorial on the use of the ALEKS input tool, also called the “Answer Editor.” Then the program will have you take the Initial Assessment.

Probably the best thing about ALEKS is that it allows each student to take a course specifically designed for his/her individual needs – students will be working at their own pace and working on material they are ready to learn. The implication of this is that I will not be lecturing on topics in the customary way. My role as instructor here is to monitor your learning and to engage in individual tutoring as the need arises.

Another advantage to using ALEKS is that since it is web-based you can work on your course anywhere you have internet access. You are required to attend class 3 days a week, but can work on ALEKS outside of the computer lab. ALEKS will remember where you left off and will always make sure that you have shown readiness before presenting new material.

Be sure to do your own work! Your best preparation for the occasional assessments is when you have been working with ALEKS yourself. By allowing someone else to do your work for you, the only person you are cheating is yourself.

Use of a Calculator: ALEKS has a calculator available as part of the program, but it will not be lit-up when it feels you should not be using a calculator. **When you take the Initial Assessment which appears after your tutorial, you should NOT use a calculator if the calculator function on ALEKS is not available.** After the initial assessment, you are allowed to use a calculator regardless of the availability of the one on ALEKS.

GRADING: In order to move on to MATH 091, you need to satisfy one of the following requirements:

- Complete the ALEKS Course “Pre-Algebra” prior to the last day of class, or
- Take the midterm exam on ALEKS during class time and receive a score of 70% or above.

In addition to the requirements above, you also need to have all of your assignments completed, and show evidence of work on ALEKS outside of class time.

Upon successful achievement of the above requirements, you will be given “Credit” for MATH 090.

Failure to successfully achieve one of the two requirements above will cause you to receive “No Credit” for MATH 090 and you will need to repeat MATH 090 in the second half of the semester.

The points accumulated from ALEKS Hours and the Study Skills Assignments will help gauge whether or not you are performing at your potential.

MIDTERM GRADING: In week 7 of the semester, Midterm grades are due. You will either receive an MS (Midterm Satisfactory) or MF (Midterm Failing). I will use the following criteria to determine which grade is received:

- If you have turned in all of your assignments *and* have put in *at least 21 hours on ALEKS*, you will receive an **MS**.
- If you have not turned in all of your assignments, you will receive an **MF** regardless of how many hours you have spent on ALEKS.
- If you have **fewer than 21 hours** on ALEKS (modifications made for those who got a late start), which equates to 3 hours per week, you will receive an **MF**, regardless of where you are in the course pie.

Completion of “Pre-Algebra” Course: You have completed an ALEKS course when you have achieved a **Goal Completion Assessment** score of 100%. ALEKS may send you notice that you have completed the course when you have completed all of the topics in the course, but you are not officially done until you have achieved 100% on the Goal Completion Assessment.

If you complete the ALEKS course “Pre-Algebra” while enrolled in MATH 090 your instructor will enroll you in the ALEKS course “Beginning Algebra” which is the course used for MATH 091. This gives you an opportunity to get a “head-start” on the next course in the sequence.

ALEKS Time and Topics Covered: In order for you to make progress through the program, you need to spend additional time working on ALEKS outside of class time. Your goal should be to spend at least 5 hours each week on ALEKS, *or* be able to MASTER about 30 topics each week. To help you achieve that goal, your time/progress on ALEKS will contribute to 10% of your overall grade. If you miss class during the week, you are still responsible for the full 5 hours/topics. The "Week" will begin on Mondays. Each week your hourly totals will begin at zero (the time clock on ALEKS does not reset - you need to keep track on your own), and can be accumulated until 11:59 p.m. the following Sunday. You will not be penalized for any deficits from the previous week, nor will you be able to carry over any excess hours. I have access to a report on ALEKS where I can see how many topics were mastered during that week's time.

The points will be awarded as follows:

5 points	5 or more hours	OR	30 or more topics MASTERED
4 points	4 - 4.9 hours	OR	25 – 29 topics MASTERED
3 points	3 - 3.9 hours	OR	20 – 24 topics MASTERED
2 points	2 - 2.9 hours	OR	15 – 19 topics MASTERED
1 point	1 - 1.9 hours	OR	10 – 14 topics MASTERED
0 points	fewer than 1 hour	OR	9 or fewer topics MASTERED

NOTE: The number of topics mastered milestones will change when you move to the Beginning Algebra pie. Refer to the MATH 091 syllabus found on the "Introductory Algebra" Blackboard site for that information.

Study Skills Assignments: Did you know that poor performance in math is rarely due to lack of intelligence? The key to success is having the right approach to studying and learning. You will need to complete 6 assignments worth 10 points each which will help you discover areas that are holding you back, and receive suggestions and activities to help you improve your approach to studying math. **Descriptions of the assignments along with due dates and grading rubrics are available on Blackboard under "Assignments."** Assignments can be submitted by email, online *via* Blackboard's Digital Dropbox, or brought to class. The assignments are due at the end of class on the due date. If you come to class without the assignment completed, you will need to use class time to complete the assignment, which will cause you to spend additional time on your own working on ALEKS to keep up on your ALEKS hours.

Attendance: A major factor in learning mathematics is a regular and focused schedule of practice. You need to practice virtually every day, and for a considerable amount of time each day in order to establish a solid foundation in algebra. To help you work on ALEKS, classroom attendance is REQUIRED every day. While the ALEKS program is available online, you are required to come to class to work during the designated time. I will be keeping track, and may contact you if you miss too many classes. The benefit to attending class each day is to receive information that is shared during class time, and to have an opportunity to ask questions of the instructor. It is important to create a good habit regarding class attendance, so for every 3 unexcused absences you have, your grade will be lowered a letter grade.

Schedule: Your starting point and rate of progress are based on your initial assessment and learning rate. Because ALEKS allows students to work at their individual pace, students will be at a variety of places in the material throughout the semester. Still, in order to pass the course and move into the subsequent course you will need to demonstrate sufficient knowledge of the material within the half-semester's time constraints. Be aware of your progress in the course pie, and keep in mind that this course is only 7(ish) weeks long. If you finish this course before the end of the 7(ish) weeks, you can get a head start on the course used in MATH 091.

Americans with Disabilities Act: If you are a person with a disability and require any auxiliary aids, services, or other accommodations for this class, please see me and/or Jane Eddy, the campus ADA coordinator (MC 332, 796-3194), within ten days to discuss your needs.

Academic Honesty: Per University policy found in the handbook, you are expected to do your own work for this class. This includes and is not limited to the completion of all ALEKS work, including practice within ALEKS, and assessments. One example of dishonest behavior would be allowing another student to work problems for you in ALEKS. A second example would be having another student take all or part of an online assessment for you. If it is suspected that you violated this policy, you will need to retake the assessment under supervision.

Purchasing and Using ALEKS

Type www.aleks.com in the URL line of your browser. Below the Registered Users box on the left you should click:

NEW USER?
SIGN UP NOW!

Choose the K-12 Higher Education option. (Using ALEKS with a Class?) Use the appropriate course code below:

YLJKT-9UP9J – Section 1 (9 a.m. section)

JF9KK-ARWXR – Section 2 (10 a.m. section)

Confirm that you are in the correct section.

ALEKS now asks for your access code. If you purchased your access code from the bookstore, you can find that code in the inside back cover of your ALEKS User's Guide. The rest of you will need to [purchase the access code online](#), so select that link.

Choose the Higher-Ed 1-semester (18 weeks) option. You should see a price of \$63.

Follow the remaining instructions, and then you will be taken to the tutorial on ALEKS.

After the tutorial, you will then take the initial ALEKS assessment to get a baseline rating of your skills and readiness for the material in this course. **DO NOT** ask anyone for help, and do not use previous notes or the textbook for assistance. Use the calculator on ALEKS, and if the calculator feature is unavailable, **DO NOT** use any calculator. It is important that you always put forth your best effort when taking assessments, because this is how ALEKS determines whether or not you have mastered the material already learned.

ALEKS keeps track of (and lets your instructor see) how much you have mastered and what you are ready to learn. Below are the topics covered in this course.

Our basic course content →

Whole Numbers

Expanded form and numeral translation
Addition, subtraction, multiplication and division
Rounding and ordering
Order of operations and arithmetic properties
Factors and Prime Numbers

Fractions & Proportions

Equivalent fractions
Ordering fractions
Addition, subtraction, multiplication and division
Mixed numbers
Proportion

Decimals & Percents

Place value, rounding, and ordering
Conversions between fractions and decimals
Addition, subtraction, multiplication, and division
Percents

Measurement, Data & Probability

Data Analysis
Mean, median and mode

Variable Expressions & Polynomials

Integer and signed numbers
Absolute value

Equations & Graphs

Functions and graphs
Reading and plotting a point on the coordinate plane

Geometry

Polygons and Quadrilaterals
Perimeter
Area

The policies and outline of this course are subject to change at the discretion of the instructor.

Revised 12/21/09