Fundamentals of Mathematics II, using ALEKS® Spring 2012

CRN 23428 **Math 130B-050** **Mon/Wed/Fri 2:00 p.m. – 2:50 p.m.** **MCS 111 A/B**

Instructor/Lecturer: **Nancy S. B. Kloboučník** (klō **bōch** nik)

Phone: (325) 942-2100 ext.258 Math Department Fax: (325) 942-2503

Email: **Nancy.Kloboucnik@angelo.edu**
*Always put Math 130B and your name, to identify yourself, in the subject line of your Email.*
Routinely check your @angelo.edu e-mail account for important class updates.

Office: **MCS 219 C**
Open door policy, stop by and get your questions answered.
Students are welcome without an appointment during these times:

Mon/Wed/Fri 10:00 am – 10:50 am
Mon/Wed/Fri 12:00 pm – 12:30 pm
Mon/Wed/Fri 3:00 pm – 5:00 pm
(I may be available at other times by appointment)

**Math Learning Lab: Library C 302 Personal Tutoring!**

| | | | |
|---|---|---|---|
| Monday – Thursday | 9:00 am – 4:00 pm | Friday | 9:00 am – 1:00 pm |
| Monday – Thursday | 6:00 pm – 9:00 pm | Sunday | 5:00 pm – 8:00 pm |

You decide when to attend. No appointment required. This is where you can ask all those questions you had after midnight. Some computers will be available. Stop by the math lab – it's a great resource!

Introduction:
Math 130B is the second in a sequence of two developmental mathematics courses which are designed to prepare you for college level mathematics.

Text:
We will not be using a text book. Instead, registration in the online program ALEKS 360® is required. Students will rely extensively on their own notes and an online text is available.

Software:
We will be using the online commercial program ALEKS® (Assessment and LEarning in Knowledge Spaces). ALEKS® is an artificial intelligence-based system for individualized learning and is available 24/7 over the internet at **www.aleks.com**. The customer service number for ALEKS® is **714-619-7090**.

**ALEKS® Course Code: 2:00 pm class** **YFLAM-V9HXR**

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Course Design:
After a quick tutorial, ALEKS® will assess which topics you already know and what you are ready to learn next. Your progress is reported by ALEKS® in the form of a pie chart. As you learn new topics, the pie slices are filled. Keep working on new topics until you have mastered all of them and filled in your pie!

Notebook:
You will undoubtedly find it very helpful to maintain a notebook containing the problems and explanations you will encounter while you work in ALEKS®. We recommend dividing your notebook into nine sections, one for each segment of your pie chart. Your notes will provide you with a written resource that you can use to seek further help, when needed, from your instructor or tutors in the Math Learning Lab. You may use your notebook during most assessments.

Calculator:
An online calculator is available in ALEKS® when appropriate.

Videos:
You may find it very helpful to watch and listen to optional video features available in ALEKS 360®.

Classroom/Lab Policies:
Food and drink are NOT allowed in the computer lab.
Please turn off and put away all cell phones* and other electronic equipment*.
During class, computers will only be used to access ALEKS® websites*.
*Students using cell phones/other electronics, visiting other websites, or are otherwise off task during class time will be marked as absent.

**Homework:**
All college courses require students to work outside of class. Your goal is to work on ALEKS® for seven hours a week. You will work on ALEKS® about two hours a week in class and then another five hours a week as it fits your schedule. You can work on ALEKS® from any location with internet access. You might find time between classes, or after lunch, or Saturday afternoon. Thirty minutes here… and an hour there… It all adds up! Keep working on new topics until you have filled in your pie chart. **The percent completion of your pie chart will be used as your homework average and will count for 25% of your overall course grade.**

**Exams:**
There is only one graded exam, the online final exam. **Your score on the final comprehensive ALEKS® exam will count for 75% of your overall course grade.**

**Overall Course Grade:**
Your grade in this class will be based on:

- your score on the Final Comprehensive ALEKS® Exam (75%)
- the percent completion of your pie chart (25%)
- adjusted by the class attendance policy

The traditional grading scale will be used: 90% (A), 80% (B), 70% (C), and 60% (D).
*This class is a developmental course, so a grade of C or better is required to pass.

**Attendance Policy:**
Your attendance and active participation in this class/lab is a vital part of your success. We want you to succeed, so you must attend consistently. Please arrive promptly and remain for the entire period. Roll will be taken daily. Absences will directly and indirectly affect your grade in the course. **All absences will be counted**, even those due to athletics, illness, school-sponsored activities, or any other reason. It is still your responsibility to work on ALEKS® at least seven hours each week.

If you are more than 10 minutes late to class, you are counted tardy. When you reach three tardies, it will become an absence and affect your grade.

| # M/W/F Absences | Affect on overall course grade |
|---|---|
| None | + 2 points |
| 1 – 3 | + 1 points |
| 4 – 6 | None |
| 7 – 9 | - 5 points |
| 10 – 12 | - 15 points |
| 13 – 15 | - 30 points |
| More than 15 | Overall course grade lowered to an F. |

**Progress Targets:**
Your steady progress through the course topics is critical to your success. We want you to succeed, so we have designed some interim goals (targets) to assist you. Your personal targets are determined by your initial ALEKS® assessment.

| Initial Assessment | Target for February 12th | Target for March 11th | Target for April 15th |
|---|---|---|---|
| 0 – 10% (0 – 22 topics) | 35% (76 topics) | 65% (140 topics) | 90% (194 topics) |
| 11 – 20% (23 – 43 topics) | 45% (97 topics) | 75% (162 topics) | 100% (216 topics) |
| 21 – 30% (44 – 65 topics) | 55% (119 topics) | 85% (184 topics) | 100% (216 topics) |
| 31 – 40% (66 – 86 topics) | 65% (140 topics) | 95% (205 topics) | 100% (216 topics) |
| Over 40% (over 86 topics) | 75% (162 topics) | 100% (216 topics) | 100% (216 topics) |

**Periodic ALEKS® Assessment:**
Your knowledge is tested from time to time by an ALEKS® assessment. Most of these will be automatically generated based on your progress in the course and will be unique to you. These assessments may be taken from any location and you may use your notebook. These assessments will confirm the topics you have truly mastered, identify topics needing further study, and update your pie chart.

There will be three times during the semester when you will take a comprehensive assessment in the class/lab, without your notes, without a calculator, in a proctored and controlled environment. These assessments are scheduled during our normal class/lab on:

**Wed: February 8th** **Wed: February 29th** **Wed: April 11th**

**Final ALEKS® Exam:**
You are required to take a Final Comprehensive ALEKS® Exam. This two-hour online exam will be taken in the class/lab, without your notes, without a calculator, in a proctored and controlled environment.

There are two types of Final Exams:

1) Optional Early Final Exam – If you complete 98% of your pie by mastering 212 topics before the end of the semester, you may take an Optional Final. If your overall course grade is 70 or better, you may sign a consent form and finish this course early! If not, you may refill your pie to 98% and attempt a final at a later date. Optional Final Exams will be administered periodically throughout the semester (during the weeks of Feb 13th – 17th, Mar 5th – 9th, Apr 16th – May 4th). See your instructor for more information.

2) Class Final Exam – The date and time of your class's Final Exam will follow ASU's official schedule for Final Exams during the week of May 7th – 11th. You may take this Final Exam regardless of the percentage of your pie completed.

CRN 23428 **Math 130B-050: Mon, May 7th  3:30 p.m. – 5:30 p.m.  MCS 111 A/B**

**Strategy**:
You need to be present and ready to do your best each day, especially on assessment days. **Strive to work on ALEKS® for one hour each day.** ALEKS® will help you to continuously review all topics.

Calendar:

| Week | Topic |
|---|---|
| Jan 16 – Jan 20 | Self-paced, software-driven class |
| Jan 23 – Jan 27 | Self-paced, software-driven class |
| Jan 30 – Feb 3 | Self-paced, software-driven class |
| Feb 6 – Feb 10 | In Class Assessment |
| Feb 13 – Feb 17 ♥ | Self-paced, software-driven class |
| Feb 20 – Feb 24 | Self-paced, software-driven class |
| Feb 27 – Mar 2 | In Class Assessment |
| Mar 5 – Mar 9 ♥ | Self-paced, software-driven class |
| Mar 12 – Mar 16 | Spring Break |
| Mar 19 – Mar 23 | Self-paced, software-driven class |
| Mar 26 – Mar 30 | Self-paced, software-driven class |
| Apr 2 – Apr 6 * | Self-paced, software-driven class |
| Apr 9 – Apr 13 | In Class Assessment |
| Apr 16 – Apr 20 ♥ | Self-paced, software-driven class |
| Apr 23 – Apr 27 ♥ | Self-paced, software-driven class |
| Apr 30 – May 4 ♥ | Self-paced, software-driven class |
| **May 7 – May 11** | **Final Exam** |

♥ Window to take Optional Early Final  *Drop Date: Wednesday, April 4th. This is the last day to drop a course with a W or withdraw from ASU. Remember, however, that a developmental class cannot be dropped unless you are self-placed in the course.

Academic Accommodations:
People with disabilities that may warrant academic accommodations must contact the Student Life Office, UC 112, to request such accommodations. You are encouraged to make this request early in the semester so that appropriate arrangements can be made.

Religious Holy Day:
A student who intends to observe a religious holy day should make that intention known in writing to the instructor one week prior to the absence. "Religious holy day" means a holy day observed by a religion whose places of worship are exempt from property taxation under Texas Tax Code 11.20. A student absent from class for the observance of a religious holy day still has the responsibility to work on ALEKS® at least seven hours each week.

**Honor Code:**
ASU expects its students to maintain complete honesty and integrity in their academic pursuits. Students are responsible for understanding the Academic Honor Code, which is available on the web at http://www.angelo.edu/forms/pdf/honorcode5.pdf

For ALEKS® related questions or administrative problems with this course that cannot be resolved with your instructor, please contact Ms. Autumn Hoover, MCS 220M, 325-942-2100 ext 223, Autumn.Hoover@angelo.edu.

This syllabus is current and accurate as of January 18th, 2012. Revisions may occur. Changes will be announced in class/lab and posted on Blackboard, 

, http://blackboard.angelo.edu.

**Student Learning Outcomes**

1 **The students will demonstrate factual knowledge including the mathematical notation and terminology used in this course.** Students will read, interpret, and use the vocabulary, symbolism, and basic definitions used in elementary algebra covering topics such as exponents, radicals, equations, inequalities, and polynomials.

2 **The students will describe the fundamental mathematical principles, generalizations, and properties arising from the concepts covered in this course**. Students will identify and apply the basic operations on the real numbers and the techniques used in solving a variety of types of equations and systems of equations.

3 **The students will apply course material along with techniques and procedures covered in this course to solve problems**. Students will use the facts, formulas, and techniques learned in this course to solve application problems in a variety of topics to include business, number relations, geometric situations, and proportions.

4 **The students will develop the basic skills and knowledge necessary to be successful in college-level mathematics courses.** Students will acquire a level of proficiency in the fundamental concepts of equation solving, algebraic manipulation, graphing, and applications to promote success in college-level math courses.

**Course content**

**No Textbook. Software:** *ALEKS, Assessment and LEarning in Knowledge Spaces,* www.aleks.com.
The following objectives are covered.

1. **Arithmetic Readiness.** Addition, subtraction, multiplication, and division of rational numbers; and order of operations and grouping symbols.

2. **Real Numbers and Linear Equations.** Addition, subtraction, multiplication, and division of real numbers; whole number exponents; order of operations; combining similar terms; evaluating algebraic expressions; techniques in solving first-degree and absolute value equations; solving first-degree and absolute value inequalities; literal equations; translating sentences into equations; distance-rate-time problems, and mixture problems.

3. **Graphs and Linear Functions.** Cartesian coordinate system; graphing equations and inequalities in two variables; and linear equations in two variables.

4. **Systems of Linear Equations.** Solving systems of equations in two variables by graphing, substitution and addition; graphical solution of a system of linear inequalities; the algebraic solution of three equations with three variables; and applications.

5. **Exponents and Polynomial Expressions.** The laws of exponents; integer exponents; scientific notation; product of a monomial and another polynomial; the product of polynomials; factoring polynomials: the greatest common factor, factoring by grouping, factoring trinomials, formulas for factoring special products, complete factorization; quadratic equations solved by factoring; and long division of polynomials.

6. **Rational Expressions and Functions.** Simplifying rational expressions; multiplication, division, addition and subtraction of rational expressions; simplifying complex fractions; rational equations; and applications.

7. **Radicals and Rational Exponents.** Radicals; simplification of radicals; operations with radicals; rationalizing denominators; rational exponents; and complex numbers.

8. **Functions.** Introduction to functions, function notation; and graphing a parabola.

9. **Quadratic Equations and Functions.** Completing the square and quadratic formula; quadratic functions; finding the vertex and x intercepts of a parabola.

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# Student Agreement for MATH 130B, Spring 2012 Sections Using ALEKS 360®

As indicated in the ASU Spring 2012 Schedule of Classes, this section of MATH 130B "is a self-paced, software-driven class that meets at the designated time in a computer lab."

We have selected the online commercial program ALEKS® (Assessment and LEarning in Knowledge Spaces) to facilitate your learning, making it individualized and partially self-paced. To make this format effective we ask you to agree to the four conditions given below, and to return this sheet, signed indicating your agreement, at our first class/lab meeting. A copy of this agreement is contained later in your syllabus for reference.

1. I agree to establish an active ALEKS 360® online account (in lieu of purchasing a regular textbook) either by an $86.60 online purchase using a credit card/debit card/ASU OneCard **or** by pre-purchasing a $118.54 ALEKS 360® access code from the ASU Bookstore. This account must be established no later than midnight Friday, January 20th. I understand that if I am not registered on ALEKS® by this time it may adversely affect my grade in the course.

> We will complete ALEKS® registration during our first and second class/lab. Please bring:
>
> i. A credit/debit card **or** an ALEKS® access code purchased from the ASU bookstore
> ii. Your login name and password to RAMPORT (ramport.angelo.edu)
> iii. Your ASU email address (@angelo.edu)
> iv. The ALEKS® course code provided by your instructor

2. I agree to regularly attend my MATH 130B class/lab where I will be able to work on ALEKS®. I understand that being absent for more than six (6) MWF class/lab meetings will adversely affect my grade in this course. I also understand that after January 20th, I must have an active ALEKS® account to be counted as present in class.

3. I agree to work on ALEKS® at least seven hours each week. **This will require five hours each week outside of our class/lab meetings.** I understand that the progress I make on completing my ALEKS® pie chart will affect my grade in this course.

4. I understand that my instructor may speak with me about my progress in this course during any class/lab meeting. And that if I do not want these discussions to take place in the class/lab I must notify my instructor.

**NOTE: If you cannot or choose not to agree to all of these conditions, please take this sheet to the Office of Predeclared Advising (Library A 312) as soon as possible, and they will help you enroll in an open section of MATH 130B using another instructional format. Last day for schedule changes is January 20th.**

_____ _____

Printed name CID

_____ _____

Signature Date