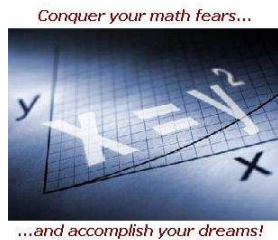


BAME Newsletter

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Be Aware, Math is Everywhere!

Hello Students! I hope you find the first issue of BAME newsletter informative and useful to help you succeed in the basic skills math courses. BAME is the acronym for *Be Aware, Math is Everywhere!* Often, students question the practicality and usefulness for learning mathematics, in particular, in today's technological society.

We often take for granted that technology can do everything for us. However, we are constantly bombarded with quantitative data that needs to be analyzed and interpreted to make sense of the information. Now, more than ever, thinking critically is an essential skill to actively participate and successfully compete in today's information and technological society.

Mathematics augments and refines our ability to become critical thinkers, which will increase our chances to succeed in whatever endeavors we take. Developing critical thinking skills are necessary to become effective and efficient decision makers.

The purpose of this newsletter is to create awareness that math is a way of thinking critically. Everyday, we do activities that involve math but we are not always consciously aware of the role

it plays in understanding the world around us. Learning mathematics will help us work smarter, not harder.

BAME newsletter will be published four times during the academic year: twice during the fall and spring terms. Each issue will contain articles demonstrating how mathematics is embedded or connected with our lives.

The focus of this first issue is to introduce a different instructional model for learning mathematics. Using technology as a learning tool to reinforce basic math skills, I expect students improve their proficiency of thinking algebraically.

Algebra is the gatekeeper to succeed in the advanced math courses and to become competent in a technological world. Students enrolled in the basic skills math courses (i.e. MAT 098 Arithmetic Review, MAT 099 Intro to Algebra, and MAT 100A Intermediate Algebra) will be experiencing a different but productive approach for learning mathematics.

I encourage you to read the newsletter and become informed of what to expect in the basic skills math courses. Knowledge is power!

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Important Dates

- ◆ 8/22 - ALEKS begins
- ◆ 10/29 - Last day to withdraw course
- ◆ 12/6 - Fall term ends

What is ALEKS?

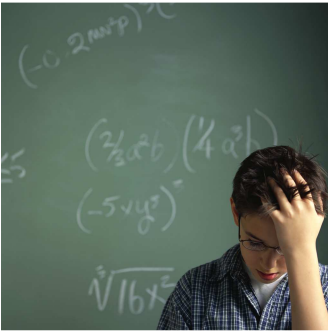
ALEKS is a web-based learning and assessment system that will be used in the basic skills math courses. ALEKS uses artificial intelligence and adaptive questioning programming to assess students' previous knowledge on the course content and what they are ready to learn.

Based on this assessment, ALEKS will then provide individualized instruction on those concepts and skills students are most ready to learn. This computer program provides a wealth of resources

such as detailed examples, video lectures, animations, Power Point presentations, e-textbook, and interactive practice exercises to help students master the course content.

ALEKS will regularly assess students' mastery of the course content and create visual displays of their progress. The immediate feedback of these assessments allow the instructor and students identify areas of improvement and intervention.

“The traditional lectures are not the most effective instructional method for students taking basic skills math courses. It increases their negative dispositions toward mathematics even more!”



Do you dislike, fear or easily become frustrated learning math? You now have the opportunity to overcome this unpleasant feeling about math!

In summary, students will learn **mathematics by doing** with the computer as their personal tutor. Since ALEKS is a web-based program, students can complete the course requirements anywhere and at any time by using the ubiquity nature of the Internet.

Please visit ALEKS website (<http://www.aleks.com>) to learn more about this program.



ALEKS®

Learning by Doing!

A Different Instructional Model

Students are placed in the basic skills math courses since they demonstrated in the placement exam not being prepared to handle the college level math courses. However, they have also been exposed to the content covered in the basic skills courses during their K-12 school years. This paradoxical experience causes many students to express disbelief, frustrations and disappointment about their placement in the basic skills courses, which cause them to take these courses without an open-minded approach.

In addition, students bring negative dispositions toward the subject of mathematics that hinders them the opportunity to succeed. Students often exhibit poor study skills, short attention spans, chronic absenteeism, and a passive approach for learning that augments their math anxieties.

From my experience, the traditional lectures are not the most effective instructional method for students taking basic skills math courses. It increases their negative dispositions toward mathematics even more! For such reason, a different instructional model will be used in the basic skills math courses.

The classroom will become a learning resource center where students are actively **learning math by doing**, not by listening lectures. Students will have a wealth of resources to choose to help them grasp the course content, which include ALEKS, the instructor, tutors, their peers, instructor-made materials, and the Internet to help them meet the course objectives.

Students use ALEKS to learn, practice, and do all assignments and tests. They have control of the learning pace; including the dates they take the exams. Students learn what they are ready to learn, which eliminates the redundancy of learning those topics they already mastered and retained.

In other words, students will take ownership of the learning process and experience an individualized instruction, which will empower them to do their best. Feeling confident and motivated doing mathematics, students can complete the basic skills courses in lesser time than usual and immediately start with the core courses of their chosen major.

A change in the course instructional model implies also a change in the roles of the instructor and students. The instructor will now become a facilitator of knowledge in which he will be coaching, supporting, guiding, clarifying, motivating, and monitoring students' performance. The role of the instructor is to enable students to perform at their best.

The role of the student will also be different in which they become active and independent learners. Students no longer have to wait for the instructor to move on with their learning. They decide the what, when, and how of their learning. This implies that students must have self-discipline, initiative, determination, greater responsibility, and accountability to perform and complete the course objectives. In summary, students will learn math by doing math!

How does ALEKS work?

An access code is required to use ALEKS, which students can purchase online at ALEKS' website (<http://www.aleks.com>) or at the school bookstore. The access code allows students to create an ALEKS account with a username and password, and to register into the instructor's course section. The process to sign up to ALEKS will be explained in detail during the first week of the course. For students who want to work ahead, the sign up process is explained in course shell at Blackboard.

Once students signed up, students take a tutorial of how to type their answers with the proper formatting since ALEKS avoids multiple choice questions. Students work problems on paper and type their answers in the system for immediate grading and feedback. In addition, the tutorial demonstrates how to use other tools such as the graphing tools, calculator, and the glossary.

After the tutorial, ALEKS prompts an assessment, which is a diagnostic test to identify students' current knowledge of the course content. Students will answer between 20-30 questions, which ALEKS use to represent visually students' current knowledge with a pie chart. The pie chart concretely shows what students know and do not know about the course objectives. The dark shaded regions in the pie represent what students know and dotted lines represent what students must learn to meet the course objectives.

Students get into the learning mode by using the pie chart. The slices of the pie represent the main concepts of the course content. Each slice contains a list of topics that students are ready to learn based on the assessment. Students select a topic to initiate the learning process.

For each topic, students have two options to master the topic: *practice* or *explain*. The option *explain* offers students detailed textual examples, where mathematical terms are linked to the dictionary to help students understand the meaning of the words. In addition, there is a link for supplemental resources, which includes

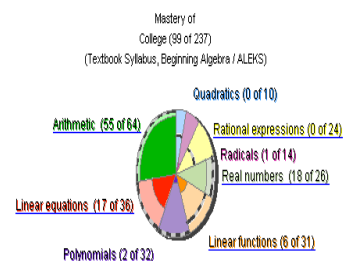
video lectures, animations, Power Point presentations, and course e-book.

With the option *practice*, students have multiple attempts to work correctly a problem. ALEKS allow students three attempts to get the correct answer for a problem before explaining how the problem is done. Students must consistently answer correctly the topic's problems before ALEKS reflect students' mastery in their pie. Mastering the topics in each slice of the pie is how students increase their shaded regions and reach the dotted lines, which represent the course objectives.

To ensure students are retaining the course objectives, ALEKS posts assessments after every 20 topics students have mastered in their pie. The results of these assessments will adjust students' pie, with the possibility students must re-learn those topics they mastered but not retained.

Students are allowed to use calculators but only in those instances that ALEKS considers appropriate, which is indicated when the calculator option is bolded on the computer screen. The glossary is enabled only during the learning mode, not during assessments or tests. Students also have the option to review mastered concepts before assessments and quizzes by clicking the *Review* option, the topics listed in the *What Student can do* list, or the *Worksheet* option. Students can ask assistance from another classmate by using the *Message* option, in which students have the capabilities to type mathematical symbols.

Finally, each slice has at least one assigned quiz. Students can only take quizzes once they have reached the intermediate objectives (i.e. dotted lines) of a slice. Quizzes are timed and its results do not adjust students' pie. Students have 2 attempts for each quiz to earn a satisfactory grade (i.e. at least 70%). If accidentally the internet browser is closed, students' answers are automatically saved and available when students login to ALEKS again.



“The pie chart concretely shows what students know and do not know about the course objectives.”



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*"Every day do
something that
will inch you closer to a
better tomorrow."*

Advantages for using ALEKS

Using ALEKS offers the following advantages:

- ❑ Self-pace learning.
- ❑ Promotes active learning.
- ❑ Individualized and/or differentiated instruction.
- ❑ Immediate grading and feedback.
- ❑ Students have a wealth of resources to learn the course content.
- ❑ Learning occurs at any time and any place.
- ❑ Students can finish earlier the course or complete two basic skills courses within the same academic term without additional cost.
- ❑ Detailed visual progress reports.
- ❑ Increased communication between students and the instructor.

Tips for Success

The integration of ALEKS into the instructional method of the basic skills courses requires students to take control of the learning process. Therefore, students are encouraged to use the following suggestions to help them become successful active learners:

- Maximize class time to do mathematics in ALEKS. Take advantage of ready available assistance during class time.
- Ask frequent questions.
- Take good notes. The course contains a large amount of content to rely solely on your memory to grasp the content.
- Read the course textbook, which will be your main reference source.
- Use all the available resources to help you understand the course content.
- Do not procrastinate. Manage your time effectively. Make the learning experience manageable by developing routines. After class, work in ALEKS at least 30 minutes everyday.
- After taking a quiz, analyze your mistakes. Learning through your mistakes is one of the most efficient ways of learning mathematics.
- Contact and/or visit your instructor during his office hours for additional assistance. The instructor is always available and easy accessible for help.
- Attend tutoring sessions. Students can re-take quizzes after attending an hour of tutoring.
- Come prepared for class. This means to have the required supplies to do math.
- Attend class. Not attending class will jeopardize your chances to pass the course.
- If you do not have access to computers at home, visit the computer lab at the Academic Enhancement Center or school library during your free times to work in ALEKS.
- Believe in yourself! You can because you believe you can!

Links

Become an active participant for promoting math awareness by visiting the sites below. Your ideas and suggestions to increase math awareness are welcomed.

- **Facebook** (<http://www.facebook.com>): Join group - Learning about Mathematics and How and Where to apply it?
- **My Del.icio.us bookmarks**(<http://delicious.com/kaferico>).
- **Wikispaces:** BAME Wiki (<http://bame.wikispaces.com/>).