Category 1C: Quantitative Techniques & Understanding LAC 2014

ADVISING NOTES

Students should complete this category in their first year.

Elementary Education students may meet the category 1C requirement by completing **MATH 1204 Mathematical Reasoning for Teaching I**.

All LAC related student requests should be sent directly to the Provost's Office.

ALEKS PLACEMENT EXAMINATION
All UNI students must take the ALEKS placement examination. **MATH 1420 Calculus I**, **STAT 1772 Introduction to Statistical Methods**, and **STAT 1774 Introductory Statistics for Life Sciences** (which is not offered regularly) have ALEKS prerequisite scores.

ALEKS cut scores are considered prerequisites. Students are not allowed to enroll in a course without demonstrating the designated ALEKS score.

Additional instructions regarding ALEKS scores and course placement are located on the following pages.

PRECALCULUS AND CALCULUS
Students with previous coursework in Precalculus or Calculus are advised to complete the ALEKS Review Module and repeat the ALEKS test before enrolling for repeat coursework. The ALEKS system is designed to save students time and money.

Students without previous coursework in Precalculus or Calculus should enroll in the following courses according to their ALEKS scores and major requirements:

MATH 1140 Precalculus **or;**
MATH 1110 Analysis for Business Students **and**
MATH 1130 Trigonometry **or;**
MATH 1120 Mathematics for Biological Sciences **and**
MATH 1130 Trigonometry

Students who prepare for Precalculus or Calculus with UNI coursework instead of ALEKS scores must contact the Math Department at 319-273-2631 for assistance registering for Precalculus and Calculus.

INTRODUCTION TO STATISTICAL METHODS
Students who do not achieve the cut score for Introduction to Statistical Methods and who have previous coursework in high school Algebra II or College Algebra are advised to complete the ALEKS Review Module and repeat the ALEKS test before enrolling for repeat coursework. The ALEKS system is designed to save students time and money.

Students without previous coursework in high school Algebra II or College Algebra should enroll in MATH 1110 Analysis for Business Students. Students who prepare for Statistics with coursework instead of ALEKS scores must contact the Math Department at 319-273-2631 for assistance registering for Statistics.

Please contact the Mathematics Department at 319-273-2631 with additional questions about math course placement.

REQUIREMENT: 3 CREDIT HOURS

CS 1025	Modern Tools for Exploring Data	3 Hours
MATH 1100	Mathematics in Decision Making	3 Hours
MATH 1420	Calculus I Required ALEKS score ≥ 76%	4 Hours
STAT 1772	Introduction to Statistical Methods Required ALEKS score ≥ 50%	3 Hours
STAT 1774	Introductory Statistics for Life Sciences Note: not offered regularly; contact Math department for appropriate ALEKS score.	3 Hours

IT TAKES MORE THAN A MAJOR

Employers tell us that **high quality learning involves more than a major**. Above and beyond what students learn in their major fields, a high-quality 21st century college education should also emphasize broad learning, personal and social responsibility, integrative and adaptive learning, and intellectual skills that support evidence-based reasoning and innovation-including **quantitative fluency** and information literacy.

Source: Hart Research Associates, *It Takes More Than a Major: Employer Priorities for College Learning and Student Success,* (Washington, DC: Association of American Colleges and Universities, 2013).

AS A RESULT OF THIS CATEGORY STUDENTS WILL …

Make sense of quantitative information.

Represent and manipulate quantitative information, using standard mathematical conventions, to clarify meaning.

Value mathematics as a natural way to approach and address questions that arise in daily life, the workplace, and society.

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Category 1C: Quantitative Techniques & Understanding LAC 2014

COURSE DESCRIPTIONS

CS 1025 Modern Tools for Exploring Data—3 hrs. Explores use of computational tools to explore data sets, find patterns, and solve complex problems. Topics include representing problems, modeling data, simulating processes, and validating models, with applications in the sciences, social sciences, humanities, and business.

MATH 1100 Mathematics in Decision Making—3 hrs. Selection of mathematical topics and their applications with an emphasis on mathematical reasoning. Topics include probability and statistics.

MATH 1420 Calculus I—4 hrs. Limits, differentiation, introduction to integration including the fundamental theorem of calculus.

- Prerequisite(s): Satisfactory score on ALEKS exam or subsequent remediation.
- Required ALEKS score ≥76%.

STAT 1772 Introduction to Statistical Methods—3 hrs. Descriptive statistics including correlation and curve fitting. Intuitive treatment of probability and inferential statistics including estimation and hypothesis testing.

- No credit for students with credit in STAT 1774 Introductory Statistics for Life Sciences.
- Students with credit in STAT 3770 Statistical Methods should not enroll in STAT 1772 Introduction to Statistical Methods.
- Prerequisite(s): Satisfactory score on ALEKS exam or subsequent remediation.
- Required ALEKS score ≥50%.

STAT 1774 Introductory Statistics for Life Sciences—3 hrs. Descriptive statistics, basic probability concepts, confidence intervals, hypothesis testing, correlation and regression, elementary concepts of survival analysis.

- No credit for students with credit in STAT 1772 Introduction to Statistical Methods.
- Prerequisite(s): Satisfactory score on ALEKS exam or subsequent remediation.
- Note: not offered regularly; contact Math department for appropriate ALEKS score.

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ALEKS Scores and FAQs

ALEKS MATH PLACEMENT

ALEKS is a mathematics placement exam used at the University of Northern Iowa to determine appropriate placement in math course(s), along with select chemistry and physics courses. The following students are expected to complete the mathematics placement test prior to orientation:

- All entering freshmen
- All entering transfer students who are planning to enroll in any math class during their time at UNI
- All College of Business majors (regardless of which math courses you have already completed)

The ALEKS assessment consists of 20 to 35 questions and takes approximately one to two hours to complete. A built-in calculator is provided when appropriate. **There is no fee for taking the assessment the first time, or for up to four re-takes within a six-month time period.** Once you take the initial assessment, you will be required to spend at least five hours working through the online review modules within ALEKS in order to access a re-take. These online review modules assist students in addressing areas of deficiency as determined by the ALEKS assessment.

After students' initial six month subscription to ALEKS review modules and re-takes expires, they have the option of purchasing an additional six month subscription to ALEKS review modules and retakes for $15. Go to https://success.uni.edu/sites/default/files/resubscription-aleks.pdf for step-by-step instructions on how to purchase this additional access. Course code: WWKQ9-3V3JK.

Access ALEKS through your MyUNIverse account by using your CatID login and password. MyUNIverse is accessible online at: http://myuniverse.uni.edu.

If you experience any technical difficulties with the ALEKS software, contact ALEKS technical support directly at 714-619-7090 or https://www.aleks.com/support/form.

ALEKS does offer a placement exam that is compatible with screen reading technology. If you would like access to this version of the exam, please contact Kristin Woods, Director of Student Success and Retention, at 319-273-2815 or kristin.woods@uni.edu.

If you have additional questions, check the FAQ on the following pages or contact Kristin Woods at kristin.woods@uni.edu or the Math Department at 319-273-6952.

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ALEKS Scores and FAQs

ALEKS SCORES AND PLACEMENT

Your academic advisor will use your score on the ALEKS assessment to determine your placement in UNI math, physics, chemistry, and business courses. If you would like to improve your score, work through the ALEKS online review module in order to prepare for the next level math course. After building your skills through the module, re-take the assessment. Review the ALEKS FAQ web page for information on how much time you'll need to spend working through the review module before each re-take will open for you.

Refer to the table below for information on which ALEKS scores correspond with readiness for specific UNI math, physics, chemistry, and business courses, and which review module is designed to build skills for each level. Note that ALEKS will automatically assign you to the appropriate review module based on your initial ALEKS assessment score.

ALEKS MATH PLACEMENT GUIDELINES
SUMMER ORIENTATION 2018

Taken from the ALEKS information website https://success.uni.edu/aleks-scores-and-placement.

ALEKS Score	Class to be enrolled in	ALEKS review module to prepare for this level
≥76%	**MATH 1420 Calculus I**	Preparation for Calculus
≥61%	**MATH 1130 Trigonometry** Does not satisfy LAC 1C. **MATH 1140 Precalculus** Does not satisfy LAC 1C. **MATH 1150 Calculus for Technology** Does not satisfy LAC 1C.	Preparation for Precalculus
≥55%	**ECON 1011 Statistics for Business Analytics** (required prerequisite for this course is STAT 1772 Introduction to Statistical Methods) Does not satisfy LAC 1C. **ECON 1021 Decision Analytics** (required prerequisite for this course is STAT 1772 Introduction to Statistical Methods) Does not satisfy LAC 1C.	Preparation for Precalculus
≥50%	**STAT 1772 Introduction to Statistical Methods** (Communication Sciences and Disorders majors may have ≥45%)	Preparation for Intermediate Algebra
≥46%	**MATH 1110 Analysis for Business Students** Does not satisfy LAC 1C. **MATH 1120 Mathematics for Biological Sciences** Does not satisfy LAC 1C.	Preparation for Intermediate Algebra
≥45%	**PHYSICS 1511 General Physics I** Does not satisfy LAC 1C. Substitutes for LAC 4B. **CHEM 1110 General Chemistry I** Does not satisfy LAC 1C. Substitutes for LAC 4B.	Preparation for Intermediate Algebra
<45%	**MATH 1100 Mathematics in Decision Making** **MATH 1204 Mathematical Reasoning for Teaching I** Elementary Education students may meet the LAC 1C requirement by completing this class. **MATH 0100 Intermediate Algebra** Does not satisfy LAC 1C; does not count toward minimum hours required for baccalaureate degree.	If your ALEKS score is 41 or below AND your ACT Math score is 17 or below, you are strongly recommended to enroll in MATH 0100 Intermediate Algebra to maximize your success in math and your major of choice.

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ALEKS Scores and FAQs

ALEKS Frequently Asked Questions

What is ALEKS?
Assessment and Learning in Knowledge Spaces is a web-based assessment and learning system. Instructions on how to take the ALEKS assessment will appear after you enter ALEKS through your MyUNIverse account. The ALEKS assessment is designed to be taken without a calculator. Use of a calculator may affect the accuracy of your placement recommendation.
ALEKS consists of three parts: an initial placement exam, access to four re-takes, and a six-month subscription to a self-paced review module. Be sure to take advantage of the online review modules, as they are available at no extra charge and will help you prepare for a more successful experience in your UNI math courses.

What is the math placement assessment through ALEKS?
The math placement assessment covers a broad spectrum of topics from basic math through precalculus. The ALEKS system is fully automated and the assessment is adaptive. The first questions will be drawn from across the curriculum, and may be too easy or too hard. As the assessment proceeds, your answers will be used to give the system an idea of your knowledge, and it will gradually focus the questioning in an individually appropriate way. By the end of the assessment you should find the questions generally challenging but reasonable for your individual level of knowledge.

Why is it important to complete ALEKS?
New students must complete ALEKS in order to register for a UNI math or physics course. ALEKS will assist you and your advisor in choosing the appropriate university-level math and physics course(s) based on your knowledge and skills in math. ALEKS identifies any weak areas you may have and provides online review modules that will help you to improve those weaknesses, therefore increasing your likelihood of success in university courses.

What is the time commitment to ALEKS?
You should allow 1-2 hours to complete the 20-35 questions given during the assessment. The exact number of questions will vary due to the adaptive mechanism. It is likely that you will be asked questions on material you have not yet learned. On such questions it is appropriate to answer, "I don't know." On any question that you have familiarity with, however, it is important to do your best. "I don't know" is interpreted by ALEKS to mean that you do not know the topic, and this will be reflected in the assessment results. If you do not do your best on the assessment, ALEKS will underestimate your knowledge.

How much time needs to pass between ALEKS assessments (for example, between taking ALEKS and then beginning a re-take)?
48 hours.

What is the minimum amount of time that I need to spend working on the online review module before re-taking the ALEKS assessment?
5 hours before 2nd placement assessment; 5 hours before 3rd placement assessment; 3 hours before 4th placement assessment; 3 hours before 5th placement assessment.

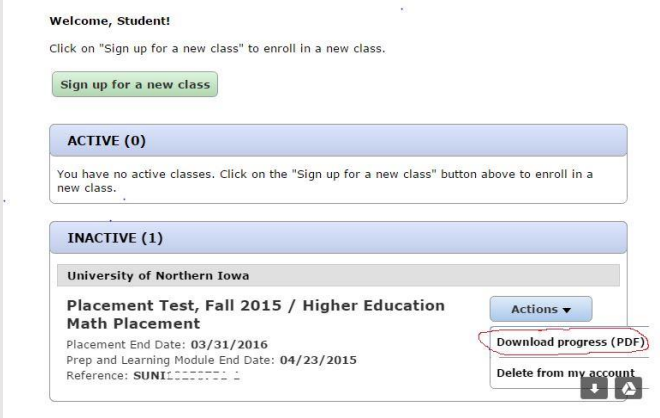
Who is required to take ALEKS?
All new freshman students at UNI are required to take the math assessment through ALEKS, as are all new transfer students who plan to take a math or physics course during their time at UNI, and all College of Business majors (regardless of which math courses already completed).

When do I take ALEKS?
As a new student entering UNI in the 2016 summer or fall term, you must complete the ALEKS exam in advance of orientation/registration, at least one week prior to your scheduled orientation session. It is recommended that you complete ALEKS near the end of your last high school or college-level math class.

Will I be charged a fee to complete ALEKS?
UNI students receive six months of free access to the ALEKS Placement, Preparation, and Learning Assessment. An additional six months of access can be purchased for $15. Click here for re-subscription instructions. Course code: WWKQ9-3V3JK.

How do I access the ALEKS math placement assessment?
Through your MyUNIverse account. Use your CatID login and password to access MyUNIverse, and then click on the ALEKS icon. Access MyUNIverse by clicking http://myuniverse.uni.edu.

How do I access my previous ALEKS score?
1. Log into your MyUNIverse account and click on the ALEKS icon.
2. Click on the "Actions" drop-down and select "Download Progress (PDF)." In order to see the inactive account, you might need to click on a button that says "Show my other ALEKS classes and more".



ALEKS Scores and FAQs

ALEKS Frequently Asked Questions

I've already taken ALEKS for another college or university. Do I need to take it again through UNI?
Yes. You will need to take ALEKS through UNI if you are a new freshman, a transfer student who will need to take any math, business, physics, or chemistry courses at UNI, and/or a business major.

Do I need to install any software or plug-ins prior to taking the ALEKS math assessment?
No, there are no required plug-ins or applets required with your use of ALEKS.As long as you have access to the internet and are using an updated browser, you should not experience difficulties in taking your ALEKS placement exam. For a list of preferred browsers, please review the ALEKS system requirements on their support site: http://www.aleks.com/support/system_requirements.

Who do I contact if I'm having technical problems with ALEKS?
You should contact ALEKS directly if you are experience any technical difficulties with the software plug-in. ALEKS technical support is (714) 619-7090. You may also access the following online help resources:
Contact ALEKS by email through the following site: http://support.aleks.com/.
For additional technical information and FAQ: http://www.aleks.com/faqs.

How long are my ALEKS scores valid?
Your score is good for 2 full academic semesters.

Do I need to take the assessment if I have AP credit or transfer credit in calculus?
Yes. Even through your AP scores and transfer credits will be used to give you credit for the corresponding courses, the results of the assessment will be used in your placement in another course. If your score does not indicate mastery of prerequisite material, you will be advised to retake a course for which you have credit to ensure that you are properly prepared for the following course.

How will my score on ALEKS be used to select my math courses?
Your academic advisor will use your score on the ALEKS assessment to determine your placement in UNI math courses. If you would like to improve your score, consider taking one of the ALEKS online review/prep modules to address your areas of deficiency. After building your skills through the modules, re-take the assessment.

When will I meet my advisor to discuss my ALEKS score and enroll in classes?
You will meet with your advisor during orientation. Your advisor will discuss your ALEKS scores, your academic interests, and academic background with you and then you will enroll in courses during orientation. For additional information about orientation programs, please visit: http://www.uni.edu/firstyear/orientation.

What can I do if my score on ALEKS is lower than I expected?
If your score on ALEKS is lower than you expected or hoped, you are strongly encouraged to complete the review modules available on the ALEKS website. These review modules are designed by ALEKS to address area(s) of deficiency as revealed by the assessment. After completing the review modules, you may elect to re-take the assessment. See http://www.uni.edu/firstyear/aleks-scores-and-placement for details on UNI math courses and ALEKS scores, and which review module to work through before re-taking the assessment.

Do I need to re-take ALEKS if I'm only one or two percentage points below the cut score for my desired math class?
Yes. You need to score at or above the cut score for a particular math class in order to enroll in that class. Just a one percent difference in ALEKS scores points to a gap in two or more concepts fundamental to your readiness for a math course. See http://www.uni.edu/firstyear/aleks-scores-and-placement for details on UNI math courses and ALEKS scores, and which review module to work through before re-taking the assessment.

Can I earn college credit by completing ALEKS?
No.

Where can I find out more about mathematics courses and get answers to questions about mathematics placement?
You will learn more about UNI courses, advising, and placement during new student orientation. More information about ALEKS and math courses at UNI is available by contacting the Department of Mathematics: 319-273-2631, emailing mathematics@uni.edu or online at: http://www.uni.edu/math.

What do I do if my web browser gets stuck or my computer crashes while I'm taking the test?
Simply close the browser, or log out of the test, and then log back in. ALEKS will resume the test exactly where you left off, with no loss of your previous answers.