

2014 Category 1C: Quantitative Techniques & Understanding

ADVISING NOTES

Students should complete this category in their first year.

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 page.

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 signed by the student's advisor and sent directly to the Provost's Office.

REQUIREMENT: 3 CREDIT HOURS

MATH 1100	Mathematics in Decision Making	3 Hours
MATH 1204	Mathematical Reasoning for Teaching I	3 Hours
MATH 1420	Calculus I Required ALEKS score > 70%	4 Hours
STAT 1772	Introduction to Statistical Methods Required ALEKS score > 50%	3 Hours
STAT 1774	Introductory Statistics for Life Sciences Required ALEKS score \geq 40% Note: not offered regularly	3 Hours
CS 1025	Modern Tools for Exploring Data	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).

COURSE DESCRIPTIONS

MATH 1100 Mathematics in Decision Making—3 hrs. Survey of mathematical ideas of particular use in analyzing information and forming and analyzing hypotheses. Topics include logical statements, probability, statistics, graphs, interest and matrices.

MATH 1204 Mathematical Reasoning for Teaching I—3 hrs. Mathematics as problem solving, communications, connections, and reasoning. Content: rational numbers, data and statistical reasoning, probabilistic reasoning. Activities investigating these topics connect to elementary school mathematics.

- Primarily for education majors.

MATH 1420 Calculus I—4 hrs. The derivatives and integrals of elementary functions and their applications.

- Required ALEKS score >65%
- Prerequisite: MATH 1140 Pre-calculus, **or** MATH 1110 Analysis for Business Students **and** MATH 1130 Trigonometry **or** MATH 1120 Mathematics for Biological Sciences **and** MATH 1130 Trigonometry **or** equivalent.

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.

- Required ALEKS score \geq 45%
- Students with credit in STAT 3770 Statistical Methods should not enroll in STAT 1772 Introduction to Statistical Methods.

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.

CS1025 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.

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.

2014**ALEKS Scores and FAQs****ALEKS MATH PLACEMENT GUIDELINES
SUMMER ORIENTATION 2014**Taken from the ALEKS information website: <http://www.uni.edu/orientation/freshman/math-placement/score-placement>

ALEKS Score Required	Class	ALEKS Review Module to Prepare For This Level
≥70%	MATH:1420 Calculus I	Preparation for Calculus
≥55%	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 ECON:1021 Introduction to Decision Techniques (required prerequisite for this course is STAT 1772: Introduction to Statistical Methods) Does not satisfy LAC 1C ECON:1011 Business Statistics (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	Preparation for Intermediate Algebra
≥45%	MATH:1110 Analysis for Business Students Does not satisfy LAC 1C MATH:1120 Mathematics for Biological Sciences Does not satisfy LAC 1C PHYSICS 1511 General Physics I Does not satisfy LAC 1C	Preparation for Intermediate Algebra
≥40%	STAT:1774 Introductory Statistics for Life Sciences	Preparation for Intermediate Algebra
<40%	MATH:1100 Mathematics in Decision Making MATH:1204 Mathematical Reasoning for Teaching 1 MATH:0100 Intermediate Algebra Does not satisfy LAC 1C; does not count toward minimum hours required for baccalaureate degree.	

ALEKS Frequently Asked Questions<http://www.uni.edu/orientation/freshman/math-placement/FAQs>

WHAT IS ALEKS? Assessment and Learning in Knowledge Spaces is a Web-based assessment and learning system. ALEKS uses adaptive questioning to quickly and accurately determine exactly what you know and don't know in a subject. Instructions on how to take the 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.

WHAT IS THE MATH PLACEMENT ASSESSMENT THROUGH ALEKS? The Math Placement assessment through ALEKS covers a broad spectrum of pre-calculus material. The ALEKS system is fully automated and the ALEKS assessment is adaptive. The first questions asked 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 course. ALEKS will assist you in choosing the appropriate university-level math course(s) based on your knowledge and skills in math. ALEKS identifies any weak areas you may have and provides review modules that will help you to improve those weaknesses, and therefore will help you be better prepared to succeed in university math courses.

HOW LONG WILL IT TAKE TO COMPLETE ALEKS? You should allow 1-2 hours to complete the assessment. You will be given 20-35 questions 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.

WHO IS EXPECTED TO TAKE THE MATH ASSESSMENT THROUGH 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 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 fall semester 2014 you must complete the ALEKS exam in advance of orientation/registration, at least two weeks prior to your scheduled orientation session. It is recommended that you complete ALEKS near the end of your last high school or community college math class.

WILL I BE CHARGED A FEE TO COMPLETE ALEKS? There is no additional fee to complete the ALEKS assessment the first or second time. However, if you choose to complete a remediation module in order to work on your areas of deficiency, you will pay \$32 for a six-week subscription to the module. If you choose to take ALEKS more than twice in order to increase your score, you will also be charged a re-take fee.

HOW DO I ACCESS THE MATH PLACEMENT ASSESSMENT THROUGH ALEKS? Through your MyUNIverse account. Use your CatID login and password to access MyUNIverse. You'll find your CatID in your admission letter. MyUNIverse can be accessed by clicking <http://myuniverse.uni.edu/>

DO I NEED TO INSTALL ANY SOFTWARE OR PLUG-INS PRIOR TO TAKING THE MATH ASSESSMENT? Yes, there is an ALEKS plug-in. Once in ALEKS, the system will automatically install the plug-in, but you do have to authorize installation. After it is installed, you will need to close your browser window and then go back into MyUNIverse to take the ALEKS placement assessment. ALEKS is cross-platform accessible.

WHO DO I CONTACT IF I'M HAVING TECHNICAL PROBLEMS WITH ALEKS? You should contact ALEKS directly if you experience any technical difficulties with the software or plug-in. ALEKS technical support is (714) 619-7090.

DO I NEED TO TAKE THE ASSESSMENT IF I HAVE AP CREDIT OR TRANSFER CREDIT IN CALCULUS? Yes. Even though your AP scores and transfer credits will be used to give you credit for the corresponding course, 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 strongly 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 COURSE? 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 modules to address your areas of deficiency. After building your skills through the modules, re-take the assessment.

WHAT CAN I DO IF MY SCORES ARE LOWER THAN I EXPECT? 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 the area(s) of deficiency as revealed by the assessment. After completing the review modules, you may elect to complete the assessment a second time.

CAN I EARN COLLEGE CREDIT BY COMPLETING THE 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/>.

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