

Important Information about Mathematics for CUA Engineering Students (Updated May 2023)

*An engineering education is built upon a **foundation** of mathematics.*

The standard first-semester mathematics course for CUA Engineering students is **MATH 121 Calculus I**. Incoming students who already have college-level calculus credit (such as from AP Exam credit) will be ahead and may enroll in a more advanced mathematics course in their first semester (typically MATH 122 Calculus II). Incoming students who are not prepared to take MATH 121 when they arrive on campus must take MATH 108 Elementary Functions.

In order to ensure that incoming students are adequately prepared for college-level calculus, all students in the School of Engineering are required to take an **ALEKS Placement, Preparation and Learning (ALEKS PPL) Assessment to determine readiness for mathematics courses** (unless they already have college-level calculus credit). Regardless of college-level credit, all students are highly encouraged to use the ALEKS system to prepare for calculus through its personalized preparation and learning modules. Additionally, this summer students have the opportunity to take an online precalculus review course, MATH 21, to further strengthen students' preparation for calculus. MATH 21 is highly recommended.

Summer Online Review Course

MATH 21 is a self-paced instructor-supported online precalculus review course that will strengthen students' preparation for MATH 121. The official cost is \$225 (includes WebAssign eBook) but the first 70 students who register will receive full scholarships for the program. The course is self-paced and can begin on or after May 20 and must finish by August 20. Students may enroll using Cardinal Students registration system. [More info at math.cua.edu](http://math.cua.edu) ("[Online Precalculus Review Courses](#)" in the left menu).

What is ALEKS PPL?

[ALEKS PPL](#) is a web-based program that uses artificial intelligence to map a student's strengths and weaknesses. The Placement Assessment is up to 30 questions and generally takes 60-90 minutes to complete. After an initial Placement Assessment, an individualized Prep and Learning Module is available for students to refresh their knowledge on forgotten topics. Students then have the opportunity to reassess and improve their placement after the baseline assessment four additional times. To reassess, students must wait at least 48 hours as a "cool off" period between assessments and spend at least 5 hours reviewing in the Prep and Learning Module. *The Placement Assessment results will be used to determine the most appropriate courses for each student as they move forward with college coursework.*

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This is a “Placement Assessment,” not a test. At the end of the ALEKS PPL Assessment, a student will have a much better sense of his/her strengths and weaknesses in math. Students then have a chance to brush up on topics that may have been forgotten or haven’t been practiced for some time.

ALEKS consists of three parts:

- An Initial Placement Assessment
- The Prep and Learning Module, an individualized, self-paced online review
- Access to 4 additional Placement Assessments

BE HONEST. It is important that the Placement Assessment is taken seriously, and each student gives it an honest effort so that the Placement Assessment truly reflects their current level of knowledge and math preparedness. Students have the opportunity to review and improve their placement four times after the initial assessment so *there is no benefit to cheating on the Placement Assessment*; The only result will be that a student enrolls in a class that is too difficult, or not challenging enough, potentially costing time and money. **While taking the Placement Assessment, students should not consult any outside sources for help (friends/family, internet searches, textbooks, notes etc...).**

How to Login to ALEKS PPL

Incoming students in the School of Engineering may access the ALEKS Math Placement Assessment by entering their **Cardinal Credentials** in mathplacements.catholic.edu. If prompted to enter a class code, enter 4ATQL-MCUPG.

- (1) Log in to mathplacements.catholic.edu with your Cardinal Credentials. If prompted to enter a class code, enter **4ATQL-MCUPG**.
- (2) Enter into the class, take a quick survey, walk through the tools tutorial, and start the Placement Assessment
- (3) After your first assessment, see your score and keep learning through the modules. Work in the modules for at least 5 hours to

retake the placement exam (up to 4 times).

ALEKS PPL Common Q&A

Preparation:

Who should take the ALEKS Math Placement Assessment?

- Incoming undergraduate students in the School of Engineering should take the ALEKS Math Placement Assessment if they do not have AP/IB, dual enrollment, or college transfer credit for math. This includes computer science students and those in the joint architecture and civil engineering program (B.S. Arch./B.C.E.). If you are waiting for your AP scores to be released, we encourage you to take the ALEKS assessment in the meantime. Spending time in the Prep and Learning Module, even if the desired score is achieved, is a benefit as time spent in ALEKS will ultimately lead to better preparation and improved grades.

When do I take the ALEKS Math Placement Assessment?

- The ALEKS Math Placement Assessment will be available in mid-June. You must complete the ALEKS Math Placement Assessment to register for math courses. *You should plan to take it at the earliest time possible and when you can focus your efforts on performing your best.*

What topics are covered during the ALEKS Assessment?

- ALEKS is an online, adaptive system that covers a broad spectrum of mathematics topics. The length of the Placement Assessment will vary, but can be up to 30 questions. You will see some, but not all, of the math you have learned in high school. *It is a Placement Assessment, not a preview of calculus.* Topics covered include:
 1. Real numbers (including fractions, integers, and percentages),
 2. Equations and inequalities (including linear equations, linear inequalities, systems of linear equations, and quadratic equations)
 3. Linear and quadratic functions (including graphs and functions, linear functions, and parabolas), exponents and polynomials (including integer exponents, polynomial arithmetic, factoring, and polynomial equations), rational expressions (including rational equations and rational functions),
 4. Radical expressions (including higher roots and rational exponents),
 5. Exponentials and logarithms (including function compositions and inverse functions, properties of logarithms, and logarithmic equations)
 6. Geometry and trigonometry (including perimeter, area, and volume, coordinate geometry, trigonometric functions, and identities and equations).

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How can I prepare to take my first ALEKS Assessment?

- You may take the initial ALEKS assessment first as a baseline and then use the Prep and Learning modules to help increase your score on subsequent assessments OR you may want to take MATH 21, [a self-paced online precalculus summer review course](#), prior to ALEKS initial assessment OR you may take the initial ALEKS assessment first as a baseline, use the Prep and Learning modules AND MATH 21 to increase your score.

Do I need to install any software or plug-ins prior to taking the ALEKS Placement Assessment?

- There are no required plug-ins required with your use of ALEKS. For a list of preferred browsers, please review the ALEKS system requirements on their support site:

http://www.aleks.com/support/system_requirements

How do I take the ALEKS Math Placement Assessment?

- (1) Log in to mathplacements.catholic.edu with your Cardinal Credentials. If prompted to enter a class code, enter **4ATQL-MCUPG**. (2) Enter into the class, take a quick survey, walk through the tools tutorial, and start the Placement Assessment (3) After your first assessment, see your score and keep learning through the modules. Work in the modules for at least 5 hours to retake the placement exam (up to 4 times).

Taking the ALEKS Math Placement Assessment:

What is the format of the questions on ALEKS?

- ALEKS is NOT a multiple-choice Placement Assessment. It is *open-response* and requires you to work out solutions with a paper and pencil, then enter them into ALEKS. Be sure to have scratch paper with you. The length of the Placement Assessment will vary, but can be up to 30 questions. You have 3 hours to complete a Placement Assessment but generally it takes 60-90 minutes to complete.

Can I practice using the ALEKS input tools before I begin the Placement Assessment?

- ALEKS will begin with a brief tutorial to make sure you are comfortable with the math palette tools before your Placement Assessment begins. The tutorial shows you how to enter different types of answers, how to use the ALEKS calculator, and how to graph. If you aren't sure how to input an answer, or need help while you are taking the ALEKS Placement Assessment, select the Help button below the answer pallet tools. Going to the tutorial during your Placement Assessment will NOT impact your Placement Assessment results.

May I use a calculator while using ALEKS?

- ALEKS will provide an on-screen calculator if you need one to complete a particular problem. Otherwise, you may not use a calculator.

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May I use any other resources during a Placement Assessment?

- You may only use a pen or pencil, paper, and the resources provided within ALEKS. You should not receive assistance from friends, family, other websites, textbooks, or any other resource not provided by ALEKS. Using outside resources will lead to improper placement and potentially course failure. Using outside help on the Placement Assessment is a violation of the [CUA's Student Academic Dishonesty Policy](#).

Can I review a question after I have answered it?

- Once you submit an answer, you cannot change it so carefully check your answer before submitting your response.

What if I see questions that I don't know the answer to?

- 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 how to solve the topic, and this will be reflected in the Placement Assessment results. There is no penalty for incorrectly answering a question on the Placement Assessment, it only helps ALEKS understand what you know and don't know. Once you start the assessment, you are required to answer all the questions and finish the assessment.

Are ALEKS Assessments proctored?

- Yes, you will be monitored with Lockdown Browser. You can check your computer setup here: https://www.aleks.com/support/lockdown_system_requirements
Make sure you are in a private, secure space to take the assessment without disruption. While taking the Placement Assessment, students should not consult any outside sources for help (friends/family, internet searches, textbooks, notes etc...). You must adhere to [CUA's Student Academic Dishonesty Policy](#).

What do I do if my web browser gets stuck or my computer crashes while I am taking the Placement Assessment?

- Simply close the browser, or log out and log back in. ALEKS will resume the Placement Assessment exactly where you left off, with no loss of your previous answers.

Placement Results:

Where can I see my placement result and what does it mean?

- Your placement result (overall score) is a number between 0 and 100. It represents the percentage of topics ALEKS has identified you have mastered. You will receive your score immediately upon completion of your Placement Assessment in ALEKS.

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What if I did not place into the course I wanted?

- Take advantage of the Prep and Learning Modules offered within ALEKS before your next placement assessment! An individualized study plan will be created based on your performance on the Initial Placement Assessment. ALEKS will identify what you know and what you are ready to learn next so you can brush up on lost knowledge. You may also want to take [MATH 21](#) over the summer, the online self-paced Online Precalculus Review Course, to place into MATH 121.

How can I take the ALEKS Math Placement Assessment again?

- Students can take the ALEKS Math Placement Assessment up to **4 additional times**. After the first attempt, **you must wait at least 48 hours between attempts AND Spend a minimum of 5 additional hours working on ALEKS modules**. We will use the highest assessment score when placing you into a math course.

Prep and Learning Modules:

How long do I have access to my Prep and Learning Module?

- You will have 12 months of access to your Prep and Learning module. Access to the prep course will not begin until you select start on the top of your screen. **DO NOT** select into the Prep and Learning Module until you are ready to start working.

Does progress in an ALEKS Prep and Learning Module count toward placement?

- No. You must complete a new Placement Assessment to change your placement result. Select the placement tab in the upper right corner of the ALEKS page to start a new Placement Assessment. You can retake the Placement Assessment up to 4 additional times to improve your score towards placement. Students are required to work in the Prep and Learning Modules for at least 5 hours to each Placement Assessment to increase success.

Technical Support:

[General Customer Service](#) – Form you can fill out that will connect you with ALEKS support.

[ALEKS Tech Support](#) – Articles to answer technical support questions.

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