McCormick School of Engineering
Math Placement Exam
2012 Information

The Purple Prep mailing sent to you earlier in the summer contained inaccurate information regarding the math placement exam. This document contains the correct dates of the exam.

The exam is online only and will be available starting Monday, July 9th and remain available through 11:55 p.m. on Tuesday, September 11th. (All times are U.S. Central Time.)

**How do I access the exam?**
The exam is online only. There is no administration of the exam during Wildcat Welcome, so students need to complete it prior to their arrival on campus.

You should visit the Course Management site [http://www.it.northwestern.edu/education/course-management/](http://www.it.northwestern.edu/education/course-management/) before you are ready to take the exam to make sure you can log in properly. Please do not put this off until the last minute! This is the site where you will access the exam during the testing period of July 9th through September 11th.

**What is covered on the exam?**
The exam consists of a total of 41 multiple-choice questions divided into three areas: Differential Calculus - 15 questions, Integral Calculus - 13 questions, and Advanced Calculus – 13 questions. You will have 65 minutes to complete each section. **Calculators are only to be used for basic math functions.** Any student with a documented disability needing accommodations should first contact the Office of Services for Students with Disabilities – see their web site for contact info: [http://www.northwestern.edu/disability/](http://www.northwestern.edu/disability/).

**Do I need to take this exam?**
YES. Incoming first-year McCormick students (even those with AP or IB credit) should take this exam. The exam is **non-binding** so it will not hurt anyone to take it. Find the situation below that best fits you and follow that procedure.

**#1) If you have not taken calculus before:**
Attempt the Differential and Integral Calculus sections of the placement exam. If there are questions on these exams with material you have never seen, just leave those questions blank.

**#2) If you have taken one or more courses in calculus (this includes students who have taken AP/IB Calculus)**
Complete all three sections of the placement exam. If there are questions on the exam with material you have never seen, just leave those questions blank.

**#3) If you have taken advanced calculus – beyond that of AP/IB or beyond basic differential and integral calculus**
Complete all three sections of the placement exam. The advanced calculus test will act as the placement exam for the honors calculus sequence. During Wildcat Welcome Week you will be notified if you have been placed into honors calculus.

If you have taken advanced mathematics classes at a university you will need to submit material from these courses for evaluation (either for credit or for placement purposes). Instructions on the credit transfer process will be sent later in the summer so be sure to continue checking your Northwestern email account.

**Why does McCormick have its own math placement exam?**
The Office of Undergraduate Engineering takes your preparation in calculus very seriously and has developed this exam as a resource for determining where you should start in the calculus sequence. Mathematics is a cornerstone in the foundation of engineering coursework. You will utilize concepts and problem solving techniques from calculus throughout your engineering studies at Northwestern.

Remember that the main idea is not to get as far ahead in the sequence from the start as possible, but to be placed into a course that will be the best fit for you. Starting out at a level too high above your ability could easily result in high levels of frustration as you have to work that much harder to grasp the material, which would take away time from your other courses and lead to poor grades. Starting out at a level too low may also result in poor study habits and poor grades as you will think you know the material already when you may not know it completely in the context the instructor is teaching.
How should I prepare for the exam?
To get the most out of this exam - that being an accurate assessment of your calculus skills and abilities - you will need to put some time into preparing for the exam. All test takers should take some time reviewing basic algebra and trigonometry concepts. For those that have taken calculus before, you should review the basic concepts of differential and integral calculus - including, but not limited to, topics such as limits, the chain rule, the product rule, substitution, integration by parts, and trigonometric derivatives and integrals. You should not attempt to learn any new material for this exam, but rather refresh yourself with what you already know. This will eliminate the feeling of “if only I had reviewed I would have scored higher on the exam.” A few hours of review, rather than weeks of study, would be appropriate in preparing for this exam.

When will I get my recommendation and what will it say?
All students will receive their placement recommendations during Wildcat Welcome Week. The recommendation will list a specific course based upon your performance on the exam.

Possible Placement Recommendations -
For incoming students, there are four possible starting points in the calculus sequence. (Students with advanced math backgrounds beyond the first two courses in Calculus - such as Vector and Multivariable Calculus - will be advised on a case-by-case basis.) These four options are:

- MATH 220 Differential Calculus of One Variable Functions
- MATH 224 Integral Calculus of One Variable Functions
- MATH 230 Differential Calculus of Multivariable Functions
- ES_APPM 252-1 Honors Calculus for Engineers (offered through the Applied Math department in the School of Engineering - covers the same material as MAT 230 but in greater depth).

Implications of the Placement Exam Recommendation -
The recommendation from this exam is non-binding. It is, however, a strong recommendation based on how you performed on the exam. This exam will also give you feedback on what topics you may want to review on your own prior to the start of classes. A math placement advisor will be available during Wildcat Welcome Week to meet with students who have questions regarding their recommendation.

Do I also need to take the ALEKS math skills exam?
Yes*. ALEKS is a web-based assessment and learning system used to determine your skills in algebra, pre-calculus and trigonometry. ALEKS is separate from the placement recommendation process, and helps students identify if they need to brush up on areas necessary for success in college-level math and chemistry courses. If you score below 75% on the initial assessment, you will need to spend additional time in the ALEKS learning module. More information concerning ALEKS can be found here: http://www.math.northwestern.edu/courses/mathALEKS.pdf

*If you earn a 5 on the AP Calculus AB exam, a 4 or 5 on the AP Calculus BC exam, or a 7 on the IB Higher Level Math exam, you do not need not take ALEKS. However, since AP scores are not reported until early July, it is in most students’ best interest to take ALEKS.

Direct any questions to the Undergraduate Engineering Office
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