

## Calculus Selection

**The Calculus Sequence.** Enrolling in the correct Calculus course is essential to your success as an engineering student in the School of Engineering and Applied Science (SEAS). There are three Applied Mathematics (APMA) Calculus courses offered:

- *APMA 1090* is a single-variable differential Calculus course, which focuses on the concepts of limits, derivatives, inverse functions, and basic integration techniques.
- *APMA 1110* continues where APMA 1090 leaves off. It is an integral Calculus course which focuses on additional integration techniques and applications as well as topics of parametric and polar equations, infinite series, power series, and the Taylor and Maclaurin series.
- *APMA 2120* extends the concepts from single variable Calculus to two or more variables with rich geometric interpretations and applications. The course involves describing and solving problems with vectors in two and three-dimensional space, partial differentiation, multiple integrals, and Vector Calculus including Green's, Stokes', and the divergence theorem.

It is important to realize that APMA courses focus on applications to engineering and physics and cover some material not routinely covered in high school AP Calculus. Furthermore, calculators are not allowed in the above courses. If you have taken related courses which allowed the use of calculators, you must consider your ability to perform in these subjects without such an aid.

**Enrolling in the right course for you.** Most students will enroll in APMA 1090, APMA 1110, or APMA 2120 during your Summer Orientation visit. Your enrollment will depend upon some combination of AP test scores, placement exam scores, and diagnostic exam scores.

- placement exam: exams which may earn you placement in a particular APMA course, but not course credit for the lower-level courses (ex.: passing the APMA 1110 placement exam [meaning you can take APMA 2120] does not earn you credit for APMA 1110)
- diagnostic exam: online diagnostic exam designed to help students choose between APMA 1090 and APMA 1110

This table provides guidance on your options:

<i>To enroll in...</i>	<i>...you must have scored (AP tests)...</i>	<i>...or passed (placement exam)...</i>	<i>...or scored (diagnostic exam)</i>
APMA 2120	5 on AP calculus BC	APMA 1110 placement exam	---
APMA 1110	4 on AP Calculus BC, OR 5 on AP Calculus AB	APMA 1090 placement exam	$\geq 70\%$ on the diagnostic exam
APMA 1090	---	---	$< 70\%$ on the diagnostic exam

Students who scored a 4 or 5 on the AP Calculus BC test, or a 5 on the AP Calculus AB test:

- should NOT take the online Diagnostic Exam, and
- will NOT be permitted to enroll in APMA 1090

**All other students** should take the APMA Diagnostic Exam (details below).

**APMA Diagnostic Exam.** It is important that you complete the diagnostic exam before or during your orientation session, because it significantly impacts your registration. Before taking the Diagnostic Exam, you may wish to review key calculus materials by accessing our [APMA 1090 Review](#) materials.

Once you feel ready to take the Diagnostic Exam:

1. Log in to the UVaCollab website using your UVa Computing ID:  
<https://collab.itc.virginia.edu/portal>.
2. Select “Membership” from the “My Workspace” menu on the left.
3. Then click on the “Joinable Sites” tab.
4. Type “calculus selection” in the Search box in the top right corner of the "Membership" webpage.
5. Select “join”. You are now a member of the "Calculus Selection" site and should be able to take the exam by selecting “Tests & Quizzes” from the “Calculus Selection” menu on UVaCollab).

**IMPORTANT NOTE:** Once you complete **Calculus Diagnostic #1**, you may access your score by selecting “Gradebook” from the UVaCollab menu under the “Calculus Selection” tab. If your score is less than 70%, you may take **Calculus Diagnostic #2** by selecting it under “Tests & Quizzes” from the UVaCollab menu. You will be allowed a total of 90 minutes for each diagnostic exam. Make sure that you are well prepared beforehand so as to not waste one of your attempts.

If you have any problems with the Diagnostic Exam, please contact Professor Bernard Fulgham at [bif3c@virginia.edu](mailto:bif3c@virginia.edu).

**APMA Placement Exams.** APMA placement exams are offered to students to help them enroll in the appropriate APMA course. The APMA 1090 placement exam is administered during the first or second class meeting of APMA 1090 in the Fall term. All other APMA Placement Exams are offered in late August:

APMA 1110 Placement Exam Monday August 24, 2009 8:00 am – 11:00 am in room MEC 339.

APMA 2120 Placement Exam Tuesday August 25, 2009 7:00 pm – 10:00 pm in room MEC 339

APMA 2130 Placement Exam Wednesday August 26, 2009 7:00 pm – 10:00 pm in room MEC 339

APMA 3080 Placement Exam Monday August 24, 2009 8:00 am – 11:00 am in room MEC 339

***If you should wish to take one or more of these APMA Placement Exams in late August***, you should send an e-mail to Professor W. W. Roberts ([wwr@virginia.edu](mailto:wwr@virginia.edu)) before or by Thursday August 6, 2009 to indicate what Exam or Exams so that a seat can be reserved for you at the Exam room or Exam rooms and an extra copy of the appropriate Exam or Exams can be made for you well in advance.