

Prerequisites in the Engineering/Sciences Calculus Sequence

As there have been recent changes in the prerequisites for MATH 160 it seems appropriate to summarize the prerequisites for this and related classes. Starting SP16, the prerequisites are

MATH 160 MATH 124 and 126 with a grade of “B” or better (as grade at CSU, or as transfer grade). Alternatively, satisfactory performance on the CSU Mathematics Placement/Challenge Exam (MPE), or credit for the classes through Advanced Placement (AP), International Baccalaureate (IB), or similar tests (such as CLEP) also suffices. For technical reasons some students who have such test credit will need an override – see below.

These prerequisites are enforced universally, including students who took Calculus in school without obtaining AP credit.

MATH 161 Prerequisites are MATH 124 and MATH 160. Note that transfer credit for MATH 160 often does not include credit for MATH 124, see below.

MATH 157 This is the first semester of the new sequence 157/159 that covers the material of MATH 160 in a year. Prerequisites for MATH 157 are MATH 124 and concurrent enrollment in MATH 126. There is no minimal grade requirement.

MATH 159 Prerequisites are MATH 124, 126 and 157.

The following sections describe special situations and transition issues.

MATH 160

► **Special treatment of AP credit etc.** For technical reasons in ARIES (the grade is coded as “S”), students who got credit for the prerequisite classes through AP (or similar exams) are not automatically recognized to have satisfied the requirement. Such students need to contact the Mathematics front office (Weber 101) to obtain a prerequisite override. (As AP Calculus gives also credit for MATH 160 this will affect a comparatively small number of students).

► **Why did you introduce minimum grade requirements?** An analysis of student performance in MATH 160 over several years found that many students who fail the class are ill prepared and overwhelmed. Over 60% of students who had passed MATH 124 or 126 with a grade below “B” failed MATH 160 (while the failure rate for other students recently has been below 30%). We therefore introduced a more gentle one-year sequence and introduced minimum grade criteria to the one-semester version.

MATH 161

► **Will there be grade requirements for MATH 161** We do not have any such plans for the foreseeable future, but we monitor student success and do not rule out prerequisite changes in perpetuity.

► **I have only transfer credit for MATH 160, not for MATH 124** You should take the MPE and test out of MATH 124. Assuming you know this material this will be easy and quick.

► **Why does MATH 161 have the requirement of MATH 124, even though it is also a requirement for MATH 160** Calculus courses at different institutions are varied and while some classes include the material from MATH 124, others don't. Instead of becoming picky on transfer of Calculus 1, it seems more appropriate to keep this extra prerequisite.

► **I have credit for MATH 141 or 155. Can I take MATH 161** If you changed majors and took MATH 141 or 155 – classes that are credit exclusive with MATH 160 – as part of the requirements of your prior major, we will count this class in place of MATH 160 in the prerequisites of MATH 161 if you have credit for (or tested out of) MATH 124 and MATH 126. In this case you may request an override into MATH 161. You should be aware however that MATH 141/155 covers far less

material than MATH 160 and we strongly recommend that you read through the relevant textbook sections to ensure you have good knowledge of all of MATH 160. We will also permit you (and indeed strongly recommend) to sit in MATH 160 without registration to catch up with the missed material.

General Issues

► **I cannot register because of a time conflict between the scheduled evening exams in Calculus and laboratories in other classes** Students with such a conflict should try to resolve it by switching lab sections (often there are multiple labs associated to one class) or by rearranging classes. Limited resources do not allow us to offer alternate exams beyond situations such as illness, and the mathematics department does not offer time conflict overrides any longer.

► **I barely failed the prerequisites but I know the material. Can I have an override?** We do not give overrides for self-assessed competence, or for the promise to complete the prerequisites at the start of the semester. Students who plan to complete missing prerequisites during the first week of the same semester should:

- Attend the desired calculus class for the first few days without registration.
- Complete the required prerequisites by the end of the first semester week.
- As soon as the prerequisites are completed (i.e. even before the result is rolled into ARIES overnight) come to the Mathematics front office and we will – space permitting – give you an override into the desired class.

► **I know the material of MATH 124/126 but do not have credit.** Take the MPE to test out of these classes.

► **Where can I find information about the MPE** At <http://www.math.colostate.edu/mpe>

► **Can I sit a challenge exam for Calculus?** Information about Challenge exams is at: <http://www.math.colostate.edu/programs/undergraduate/guidance/challenge.pdf>

► **I would like to get into another section of the same Calculus class** Students can, space permitting, change registration by the Add/Drop deadline. When doing so please make sure not to drop a class before checking for space available in another section – there is no “undo” option for the drop.

We do not give capacity overrides into full sections for reasons of section change or instructor preference.

Students who cannot register in any section of Calculus due to conflicts with other required CSU classes (work commitments etc. do not count), whose graduation therefore would be delayed, and who can document that no rearrangement of other classes/sections, even over different semesters or with taking summer classes, could resolve this issue should contact the Mathematics Department and we will try to help to the best of our abilities.

► **I did IB Mathematics but did not get Calculus credit** There are several versions of IB Mathematics (which recently changed) and not all cover material of Precalculus/Calculus. “Mathematics Studies” will satisfy the AUCC mathematics requirements but not give credit for (pre)calculus classes

► **What if I have further questions** Please contact the Mathematics Department, mathdept@math.colostate.edu, 491-1303.