Proposal to CMSC 131X: second half of CMSC 131

Problem:

Many students come in with CS background, but are not prepared enough to receive credit for our introductory course, CMSC131. For example, they may take our exemption exam and receive a 70, where a passing grade is 80. This may happen because they have taken a programming course in a language that is not Java, and/or not at the level of the CS AP A (high school version of 131). Or, even if it is at that level, they may get a 4 on the CS AP. They know a lot, but not enough (we think) to be successful in 132. Right now, these students take 131, along with students who have no/little background.

There are two problems with this state of affairs. First, the partially-prepared students described above are not challenged in the first course. They could be spending their time more usefully. Worse, we observe that some students get the wrong impression from the first half of the course, which is easy, and then struggle during the second half because they have developed bad habits. For example, they may quit attending class and/or allocate little time to the projects and exam prep. These habits may be OK during the first half of the course, but are catastrophic during the second half.

Second, partially-prepared students confound the ability of the 131 instructors to teach effectively, because they widen the range of student backgrounds. In particular, 131 is *designed* with the assumption that students have no background. But in practice, it ends up proceeding faster than it should because so many students in the class have seen the material before, and quickly absorb it. The instructor detects this comfort level and naturally blazes ahead. Those students falling behind are not the majority, and so the instructor is less aware of them. In the end, students with less/no background feel under constant pressure, do poorly, and may drop the course and/or the major as a result.

Solution:

The proposed solution is to offer a 2-credit course, called CMSC 131X. This course amounts to the second half of CMSC 131 (which is a 4-credit course). Only students who have passed the first half of our exemption exam or earned a 4 on the CS AP test (where a 5 is needed for all of CMSC131) may sign up for this course. Another gateway for the course might be through articulation agreements with certain community college classes that are not rigorous enough to replace all of 131, but could replace the first half of it.

131X serves as a substitute for 131 in the major prerequisite and graduation requirements.

CMSC 131X could be offered in parallel with 131 during the second half of the semester, or it could be offered both 1st half and 2nd half of the semester to get more students through depending on the demand. Alternatively, it could be offered as a full semester course for the whole of the semester just meeting half as often.

If the education committee approves, we could send it up the chain and potentially even offer it in Fall 2019.