



## Rationale

The department is proposing only a single change to the existing major in mathematics: the removal of MATH 201 (Introduction to Discrete Mathematics) as a required course. We originally included MATH 201 as an explicit requirement in the major to ensure that our students (a) had exposure to the discrete side of mathematics and (b) gained training in making arguments and writing proofs, all before moving on to our upper-level theory courses (two of which, MATH 431 and 471, are required). Given the restructuring of our curriculum around MATH 330, neither of these arguments make MATH 201 absolutely necessary anymore: CPSC 284 (Applied Discrete Mathematics) satisfies (a), while MATH 330 satisfies (b). Since MATH 330 is now required in the major, there is no reason CPSC 284 cannot play the role of MATH 201, so that MATH 201 need no longer be explicitly required.

Our current major program makes it difficult for a student who is a computer science major to pursue mathematics. Right now, a MATH/CPSC double major must take 7 credits in discrete mathematics, as MATH 201 is mandated for math and CPSC 284 is mandated for computer science. Given that this double major would also have to take MATH 330, this is too much overlap in preparation. A double major (or major/minor) taking CPSC 284 and MATH 330 but not MATH 201 would be sufficiently prepared for any course following MATH 330 (in fact, this is the whole point of requiring MATH 330 in the major). The current proposal fixes this by removing this onerous roadblock to higher mathematics courses, with no loss of rigor or preparation.

## Impact Statement

To be clear, the proposed changes are curricular and internal to the department, involving no additional resources from the Library, IT, or other support offices. Moreover, as MATH 201 will still serve as a prerequisite to required courses in the major, this will not have any effect on staffing or course offerings.

## Catalog Copy

Current major:

A minimum of forty-one (41) credits are required. Twenty-six (26) credits must be from the following mathematics courses: MATH 122, 201, 224, 300, 330, 431, 471, and either 432 or 472. An additional twelve (12) credits must be from MATH or STAT courses at the 300- or 400-level, with at least three (3) of these credits from 400-level MATH or STAT courses. Three (3) additional credits must be from: MATH or STAT courses numbered 207 or above; computer science (CPSC) courses numbered 220 or above (except CPSC 302); physics (PHYS) courses numbered 105 or above (except PHYS 108); PHIL 306. Mathematics majors must meet the department's computer programming requirement by taking one of the following courses: MATH 351, 421; CPSC 110, 219, or 220. Courses used to satisfy the programming requirement may also be used elsewhere in the major. At most six (6) credits of directed study (MATH or STAT 491/492) will count for the major. No internship (MATH or STAT 499) credits will count for the major.

Proposed major:

A minimum of thirty-eight (38) credits are required. Twenty-three (23) credits must be from the following mathematics courses: MATH 122, 224, 300, 330, 431, 471, and either 432 or 472. An additional twelve (12) credits must be from MATH or STAT courses at the 300- or 400-level, with at least three (3) of these credits from 400-level MATH or STAT courses. Three (3) additional credits must be from: MATH or STAT courses numbered 207 or above; computer science (CPSC) courses numbered 220 or above (except CPSC 302); physics (PHYS) courses numbered 105 or above (except PHYS 108); PHIL 306. Mathematics majors must meet the department's computer programming requirement by taking one of the following courses: MATH 351, 421; CPSC 110, 219, or 220. Courses used to satisfy the programming requirement may also be used elsewhere in the major. At most six (6) credits of directed study (MATH or STAT 491/492) will count for the major. No internship (MATH or STAT 499) credits will count for the major.