Course Substitutions

Tri-College courses not listed here, or courses taken at other institutions (including study abroad) may be used to satisfy a major or minor requirement, provided that the department chair approves these substitutions. Requests for such approval must be made at least a month before the class begins. In considering such requests, a course will typically be deemed to be 300-level if it has a 200-level math or stat course as a prerequisite and builds on the theory of that 200-level class as a central focus of the class. Also, if a course lies at the interface between focuses, it may be approved for use in either focus depending on the particular details of the course in question.

Tri-College course substitutions for calculus and linear algebra

Courses that can replace calculus or linear algebra courses (for a major or minor)

- MATH B102 (Calculus II) is equivalent to MATH H118
- MATH B201 (Multivariable Calculus) is equivalent to MATH H121.
- MATH B203 (Linear Algebra) is equivalent to MATH H215.
- MATH S025 (Single Variable Calculus 2) is equivalent to MATH H118
- MATH S027 or S028 (Linear Algebra) is equivalent to MATH H215.
- MATH S033 (Basic Multivariable Calculus) is equivalent to MATH H121.
- MATH S034 or S035 (Several Variable Calculus) is equivalent to MATH H216.

Tri-College course substitutions for courses named explicitly in major/minor requirements

Courses that can replace courses named in the pure math focus of the major, or in the pure math minor:

- MATH B301 (Real Analysis I) is equivalent to MATH H317.
- MATH B303 (Abstract Algebra I) is equivalent to MATH H333.
- MATH B312 or B512 (Topology) is equivalent to MATH H335.
- MATH S063 (Introduction to Real Analysis) is equivalent to MATH H317.
- MATH S067 (Introduction to Modern Algebra) is equivalent to MATH H333.
- MATH S104 (Topology) is equivalent to MATH H335.

Courses that can replace courses named in the statistics focus of the major, or in the statistics minor:

- MATH B301 (Real Analysis I) is equivalent to MATH H317.
- STAT S011 is equivalent to STAT H203 (Statistical Methods and their Applications)
- STAT S021 is equivalent to STAT H361 (Applied Multivariate Statistical Analysis)
- STAT S051 is equivalent to MATH H218 (Probability)
- STAT S061 is equivalent to STAT H328 (Mathematical Statistics)
- MATH S063 (Introduction to Real Analysis) is equivalent to MATH H317.

Courses that can replace courses named in the applied math focus of the major, or in the applied math minor:

- MATH B210 (Differential Equations with Applications) is equivalent to MATH H204.
- MATH B301 (Real Analysis I) is equivalent to MATH H317.
- MATH B308 (Applied Mathematics I) is equivalent to MATH H382.
- MATH S043 or S044 (Differential Equations) is equivalent to MATH H204.
- MATH S063 (Introduction to Real Analysis) is equivalent to MATH H317.
- MATH S056 (Modeling) is equivalent to MATH H382.
- MATH S054 (Partial Differential Equations) is equivalent to MATH H383.
- MATH S066 (Stochastic and Numerical Methods) is equivalent to MATH H222.

Tri-College courses that can be used for "additional course" requirements

Courses that can count as 200-level **pure math** courses:

- CMSC H235 (Information and Coding Theory), cross-listed as MATH H235
- MATH B225 (Introduction to Topology and Geometry)
- MATH B290 (Introduction to Number Theory)
- MATH B295 (Select Topics in Mathematics) **if the topic is in pure math** (please consult the department chair or your major/minor advisor for this determination).

*Note: MATH B206 (Transition to Higher Mathematics) does **not** count toward our major or minor with one exception: students can seek approval from the department chair to count MATH B206 as a 200-level pure math course if it is taken before the student has taken any 300-level course in pure math.*

Courses that can count as 300-level **pure math** courses:

- A course shown above as equivalent to MATH H317, H333, or H335
- CMSC H345 (Theory of Computation), cross-listed as MATH H345
- MATH H390 (Advanced Topics in Algebra)
- MATH H391 (Advanced Topics in Geometry and Topology)
- MATH H392 (Advanced Topics in Analysis)
- MATH H394 (Advanced Topics in Theoretical Computer Science)
- MATH H395 (Advanced Topics in Combinatorics)
- MATH B302 (Real Analysis II)
- MATH B305 (Abstract Algebra II)
- MATH B322 (Functions of Complex Variables)
- MATH B390 (Number Theory)
- MATH B501 (Graduate Analysis I)
- MATH B502 (Graduate Analysis II)
- MATH B503 (Graduate Algebra I)
- MATH B504 (Graduate Algebra II)
- MATH B522 (Complex Analysis)

- MATH B525 (Algebraic Topology)
- MATH B530 (Differential Topology)
- MATH S057 (Topics in Algebra)
- MATH S058 (Number Theory)
- MATH S065 (Introduction to Geometry)
- MATH S069 (Combinatorics)
- MATH S073 (Advanced Topics in Analysis)
- MATH S077 (Advanced Topics in Algebra)
- MATH S101 (Real Analysis II)
- MATH S102 (Modern Algebra II)
- MATH S103 (Complex Analysis)
- MATH S105 (Geometry II)

Courses that can count as 200-level statistics courses:

- A course equivalent to STAT H203 (or ECON 203/ECON 204/ PSYC200/SOCL 215) or MATH H218
- MATH B205 (Theory of Probability with Applications) counts as a 200-level statistics course (for students not in the statistics focus or minor). However, it cannot substitute for MATH H218 within the statistics focus of the major, or within the statistics minor, since it does not cover some topics needed for upper-level statistics courses.

Courses that can count as 300-level statistics courses:

- A course equivalent to STAT H361 or STAT H328 or STAT 396
- ECON H324 (Advanced Econometrics)
- STAT S111 (Mathematical Statistics II)

A student pursuing an applied math focus in our major can use a course on the list below as their "additional applied math course" (as an alternative to taking a third course from the list of courses shown in the applied math focus requirements):

- MATH/STAT H203 (Statistical Methods and their Applications)
- MATH H218 (Probability)
- MATH/STAT H361 (Applied Multivariate Statistical Analysis)
- MATH/STAT H396 (Advanced Topics in Statistics)
- MATH B208 (Introduction to Modeling and Simulation)
- MATH B225 (Introduction to Financial Mathematics)
- MATH B295 (Select Topics in Mathematics) if the topic is in applied math
- PHYS H304 (Computational Physics), counts as 200-level in applied math
- The combination PHYS B205 and B207 (two half-semester courses called Mathematical Methods in the Sciences I and II)
- MATH B310 (Mathematics of Financial Derivatives)
- CMSC H340 (Analysis of Algorithms), cross-listed as MATH H340

- CMSC B340 (Analysis of Algorithms)
- ECON H355 (Advanced Microeconomics: Uncertainty), counts as 200-level in applied math
- ECON H360 (Mathematical Economics), cross-listed as MATH H360

For students pursuing pure math or statistics (as a major focus, or as a minor), a course on the above list, or a course shown above as equivalent to MATH H204, MATH H222, MATH H382, or MATH H383, can be used as an applied math course toward an “additional course” requirement.