Mathematical Sciences

The Mathematical Sciences Core Requirement

The courses that satisfy the general education (i.e., Core) requirement in the Mathematical Sciences present broadly applicable techniques for formulating, analyzing, and solving problems, and for evaluating proposed solutions. The Departments of Mathematics, Statistics, and Computer Science offer options to complete this requirement, including calculus. These subjects are strongly connected to the Physical Sciences (http://collegecatalog.uchicago.edu/thecollege/physicalsciences/), as mathematics is the language of science and the only known way to make quantitative assessments about the experiments. Statistics teaches us how to interpret experimental results and how to assess a level of confidence in the conclusions derived from them, while computer science enables us to analyze large and complex data and simulate physical processes whose properties cannot be determined mathematically. The techniques developed and applied to scientific inquiry provide valuable tools to the basis of inquiry in any field, and indeed in our lives in general.

Students may select from the following lists of courses.

Mathematical Sciences Core Non-Calculus Course Options

All non-calculus options may be taken individually or, when available, as a sequence. These courses may also be combined to fulfill 200 units of general education requirements (i.e., MATH 11200 and STAT 20000). Students who satisfy the requirement with something other than calculus will take 100 or 200 units of approved non-calculus course work. If only 100 units are used for the mathematical sciences requirement, an additional 100 units will be taken in either the physical or biological sciences categories (for a total of 300 units).

CMSC 11111	Creative Coding	100
CMSC 14100 & CMSC 14200	Introduction to Computer Science I and Introduction to Computer Science II ~	200
DATA 11800	Introduction to Data Science I	100
MATH 11200	Studies In Mathematics I	100
MATH 11300	Studies In Mathematics-2	100
One of the following courses: #		100
STAT 20000	Elementary Statistics	
STAT 20010	Elementary Statistics Through Case Study	
STAT 22000	Statistical Methods and Applications	

~ Credit for CMSC 14100 Introduction to Computer Science I and/or CMSC 14200 Introduction to Computer Science II may be earned by successful completion of a higher-level CMSC course as a result of a student's placement exam (http://collegecatalog.uchicago.edu/thecollege/placementexams/#computerscienceplacementexams) results.

Statistics AP credit may not be used in combination with a calculus course, with STAT 20000 (http://collegecatalog.uchicago.edu/search/?P=STAT%2020000) Elementary Statistics, or with STAT 22000 (http://collegecatalog.uchicago.edu/search/?P=STAT%2022000) Statistical Methods and Applications. Students may not receive credit for more than one of STAT 20000, STAT 20010, and STAT 22000.

Mathematical Sciences Core Calculus Sequence Options

Students must meet the mathematical sciences requirement with the first two quarters of a calculus sequence if they are preparing for the health professions or if they anticipate majors in the Physical or Biological Sciences, Economics, Psychology, or Public Policy Studies. Other restrictions may apply. Students should consult their College adviser or departmental counselor about course choices. Those who take calculus must earn credit for the first two quarters of a calculus sequence (200 units).

Further information regarding calculus credit and placement can be found on the Examination Credit (http://collegecatalog.uchicago.edu/thecollege/examinationcreditandtransfercredit/) page.

MATH 13100-13200	Elementary Functions and Calculus I-II	200
MATH 15100-15200	Calculus I-II ^	200
MATH 16110-16210	Honors Calculus I-II (IBL)	200
MATH 16100-16200	Honors Calculus I-II	200

^ Credit for MATH 15100 Calculus I and MATH 15200 Calculus II may be earned by successful completion of a higher-level MATH course as a result of a student's placement exam (http://collegecatalog.uchicago.edu/thecollege/placementexams/#mathematicsplacementexams) results or by passing the Calculus Accreditation Exam (http://collegecatalog.uchicago.edu/thecollege/accreditationexams/#calculusaccreditationexam).