

Guidelines for HMC Mathematics Majors Studying Abroad

Spending a semester studying abroad requires a bit of prior planning and adjustments to your schedule in order to ensure that you meet all the requirements of the mathematics major to allow you to graduate on schedule. This document provides some suggested class selections to allow you to study abroad during either the fall or spring semester of your junior year.

We encourage you to consider taking mathematics (and other) courses *not* available at HMC while you are abroad. Keep in mind that one humanities/social sciences course taken abroad can be counted as an on-campus class with the prior approval of the HSS department.

Important: Consult your advisor about the mathematics courses you will take abroad *before you leave*. In some cases, the department will accept courses taken abroad in place of HMC courses required for the math major; such courses *must be approved in advance* by the Mathematics Department's Curriculum Committee.

General Notes

Some general notes about arranging your major requirements to support a semester abroad.

Computational Mathematics Requirement

The computational mathematics course (indicated in the schedules with an asterisk, *) can be any of the following:

- Math 164 Scientific Computing (usually offered in Spring)
- Math 165 Numerical Analysis (usually Fall)
- Math 167 Theory of Computation (usually Fall)
- Math 168 Algorithms (both semesters)
- CS 81 Computability and Logic (both semesters)

Remember to check the catalogue for prerequisites. In particular, CS 60 is a prerequisite for Math 164, 167, 168, and CS 81.

Math Forum Requirement

The Math Forum requirement (indicated in the schedules with a dagger, †) must include two semesters of Math Forum, including at least one semester of Math 198 (one credit) and a second semester of either Math 198 or Math 199 (colloquium option; zero credit).

Other Schedules

Different paths through the major requirements are possible, such as if you take Math 55 in the fall semester of your sophomore year instead of during the spring semester of your first year as shown in these examples. Consult your advisor for guidance and alternatives.

Sample Math Major for Students Studying Abroad in the Fall of Junior Year

Year	Fall Semester	Spring Semester
First year	Math 11, Math 12	Math 13, Math 14 Math 55 (Discrete Mathematics)
Sophomore	Math 61, Math 62 Math 171 (Abstract Algebra)	Math 63, Math 64 Math 131 (Mathematical Analysis)
Junior	Abroad! Math elective Math elective Math elective	Math 157 (Probability) Computational math course* Math elective Math 198 (Math Forum) †
Senior	Math 193 (Clinic) Math 197 (Thesis) Math 180 (applied analysis) Math Forum †	Math 193 (Clinic) Math 197 (Thesis)

For the fall study abroad option, we recommend taking Math 55 (Discrete Mathematics) in the spring of your first year, so that you can take Math 171 (Abstract Algebra) in the fall semester of your sophomore year. Math 180 (Applied Analysis) and one semester of Math Forum (Math 198 or 199) are then delayed until the fall semester of your senior year.

Sample Math Major for Students Studying Abroad in the Spring of Junior Year

Year	Fall Semester	Spring Semester
First year	Math 11, Math 12	Math 13, Math 14 Math 55 (Discrete Mathematics)
Sophomore	Math 61, Math 62 Math 171 (Abstract Algebra)	Math 63, Math 64 Math 131 (Mathematical Analysis) Math 157 (Probability)
Junior	Math 180 (Applied Analysis) Computational Math course* Math 198 (Math Forum) †	Abroad! Math elective Math elective
Senior	Math 193 (Clinic) Math 197 (Thesis) Math Forum	Math 193 (Clinic) Math 197 (Thesis)

For the spring study-abroad option, we recommend taking Math 55 (Discrete Mathematics) in the spring semester of your first year. Math 157 (Probability) is taken earlier than usual, during the spring semester of your sophomore year. In this schedule, the only delay in the HMC math major is that one semester of Math Forum (Math 198 or 199) is postponed until the fall semester of your senior year.