

AB/MA Program in Mathematics

Bryn Mawr College

For students entering with advanced placement, it is possible to earn both the A.B. and M.A. degrees in an integrated four-year (or five-year) program; the norm in mathematics is for student to complete this program in four years, doing research for and writing an M.A. thesis in the fourth year. A student normally applies to this program in their sophomore year.

Students in this program complete the same requirements for each degree as would those students who undertake the A.B. and then the M.A. sequentially but are offered the unique opportunity to work towards both degrees concurrently and to count up to two courses towards both degrees.

A list of A.B./M.A. alumnae/i, their thesis topics, and advisors can be found at

<https://www.brynmawr.edu/math/abma-program>

Some of our A.B./M.A. alumnae/i go on to complete a Ph.D., and some go on to other careers. Here is a sampling of where our recent A.B./M.A. alumnae have gone after Bryn Mawr.

Further Graduate Study

- Sarah Gift, A.B./M.A. '18, (Columbia University, Teacher's College)
- Boyang Su, A.B./M.A. '18, (University of Chicago, Math)
- Madeline (Seppo) Hanson-Colvin, A.B./M.A. '16, (Duke University, Math)

Academic Careers

- Rebecca Rebhuhn-Glanz, A.B./M.A. '11, (Ph.D. at the University of Michigan, Assistant Professor of Mathematics at George Mason University)
- Amy Veprauskas, A.B./M.A. '10, (Ph.D. at the University of Arizona, Assistant Professor of Applied Math at University of Louisiana, Lafayette)
- Jaclyn Lang, A.B./M.A. '09, (Ph.D. at UCLA, NSF Postdoc and Fulbright grantee at Université Paris 13)

Other Careers

- Emily Schroeter, A.B./M.A. '15, (Biotech Analyst at Celgene)
- Yolanda Shao, A.B./M.A. '13, (VP, Global Risk Methodology at SGCIB (Société Generale Corporate and Investment Banking))
- Lise Chlebak, A.B./M.A. '11, (Ph.D. at Tufts University, Technical Writer at MathWorks)
- Sarah Khasawinah, A.B./M.A. '09, (Ph.D. at Johns Hopkins School of Public Health, Professional Staff Member at U.S. Senate)

I. REQUIREMENTS FOR THE M.A.

The requirements for the M.A. are:

- at least 2 units in 500 or 600-level graduate mathematics;
- at least 2 additional units in graduate mathematics;
- at least 2 additional units in graduate mathematics or an allied field;
- reading proficiency in one foreign language, usually French, German, or Russian;
- completion of an M.A. thesis;
- passage of an oral final examination in the area of the thesis.

An undergraduate student enrolled in the A.B./M.A. Program must meet these same requirements with the exception that 1) up to two units may be taken for dual undergraduate and graduate credit, thus decreasing the total number of units required to get the two degrees, and 2) the foreign language requirement is waived by the College's undergraduate language requirement.

II. GRADUATE COURSE OFFERINGS

We have eight introductory graduate courses in the areas of Analysis, Algebra, and Topology. Students usually take these courses over a 2 year cycle as described in Table 1.

Introductory Graduate Courses:

- (Analysis) Graduate Real Analysis I & II (MATH B501 & B502), and Complex Analysis (MATH B522);
- (Algebra) Graduate Algebra I & II (MATH B503 & B504),
- (Topology) Point Set Topology (MATH B512), Algebraic Topology (MATH B525), and Graduate Differential Topology (MATH B530)

MATH B512 (General Topology) shares lectures with our advanced undergraduate courses MATH B312 (Topology); students in MATH B512 have an extra 1.5 hour class session, do additional homework, and often do different exams. Similarly MATH B522 (Complex Analysis) shares lectures with our advanced undergraduate courses MATH B322 (Functions of Complex Variables), but students taking this course at the graduate level have an extra meeting and do additional work.

Fall of 2020	Spring of 2021
512 (General Topology)	525 (Algebraic Topology)
Fall of Odd Year	Spring of Even Year
501 (Real Analysis I)	502 (Real Analysis II)
522 (Complex Analysis)	530 (Differential Topology)
Fall of Even Year	Spring of Odd Year
503 (Algebra I)	504 (Algebra II)
512 (General Topology)	525 (Algebraic Topology)

TABLE 1. Two Year Graduate Course Sequence

III. SAMPLE COURSE PLAN

	Fall Semester	Spring Semester
First year	MATH 201: Multivariable Calculus Emily Balch Seminar Foreign Language Distribution Requirement	MATH 203: Linear Algebra Math Elective (200 or 300 level) Foreign Language Distribution Requirement
Second year	MATH 301: Real Analysis I; <i>W.A.</i> MATH 303: Abstract Algebra I; <i>W.A.</i> Distribution Requirement Free Elective	MATH 302: Real Analysis II MATH 304: Abstract Algebra II Distribution Requirement Free Elective
Third year	Graduate Math Course * Free Elective** Free Elective Free Elective	Graduate Math Course * Free Elective** Free Elective Free Elective
Fourth year	Graduate Math Course * Math 701 or 702 (Thesis) Math 398: Senior Conference Free Elective	Graduate Math Course * Math 701 or 702 (Thesis) Free Elective Free Elective

Note: This plan assumes 4 transfer credits (such as AP, IB) toward the BMC degree.