MATH MAJOR CHECKLIST

Requirement for **all** Bachelor's degrees in Mathematics:

☐ Satisfying the Brandeis Core requirements (see page 2), which must be completed in the course of any degree.

☐ **One** of: Math 15a (Linear Algebra) or 22a (Honors Linear Algebra)

☐ **One** of: Math 20a (Multivariable Calculus) or 22b (Honors Multivariable Calculus)

☐ Math 23b (Introduction to Proofs)

☐ **One** of: Math 35a (Advanced Calculus and Fourier Analysis), 110a (Real Analysis), or 115a (Complex Analysis)

☐ **One** of: Math 28a (Introduction to Groups), 28b (Introduction to Rings and Fields), or 100a (Introduction to Algebra)

BA in Mathematics

☐ Four additional courses, either MATH courses numbered 27 or higher, or cross-listed with Mathematics (all courses can be found here).

☐ **Honors**

  ☐ Six additional courses (as opposed to four), either MATH courses numbered 27 or higher, or cross-listed with Mathematics

  ☐ At least four of the courses used to satisfy the major requirements must be MATH courses numbered 100 or higher, *excluding* MATH 121a, 122a, 123a, and 125a.(Cross-listed courses do not count toward this requirement.)

BS in Mathematics

☐ Seven additional semester courses, either MATH courses numbered 27 or higher or cross-listed courses in Mathematics (all courses can be found here).

☐ **Honors**

  ☐ At least four of the courses used to satisfy the major requirements must be MATH courses numbered 100 or higher, *excluding* MATH 121a, 122a, 123a, and 125a. (Cross-listed courses do not count toward this requirement.)

  ☐ **One** of:

    ☐ Two MATH courses numbered 201a or higher. (Cross-listed courses do not count toward this requirement). These two courses count toward the four courses required to satisfy the Honors Standards.

    ☐ Completion and defense of a senior honors thesis. Students considering this option should enroll in MATH 99a and MATH 99b. A written thesis proposal must be prepared at the beginning of the first semester, and be approved by the committee and the Undergraduate Advising Head, prior to registration for the course.

BS in Applied Mathematics

- ☐ Satisfying the Brandeis Core requirements (see below), which must be completed in the course of any degree.
- ☐ **One** of: Math 15a (Linear Algebra) or 22a (Honors Linear Algebra)
- ☐ **One** of: Math 20a (Multivariable Calculus) or 22b (Honors Multivariable Calculus)
- ☐ Math 23b (Introduction to Proofs)
- ☐ Math 36a (Probability)
- ☐ **One** of: Math 36b (Mathematical Statistics) or 40a (Introduction to Applied Mathematics)
- ☐ **Two** of: Math 35a, 37a, 110a or 115a.
- ☐ **Two** of: Math 121a, 122a, 123a, 124a, 125a or MATH 126a.
- ☐ One additional mathematics course numbered 27 or higher or a course cross-listed in Applied Mathematics (cross-listed courses with Applied Mathematics can be found here:)
- ☐ **Two** courses must be taken from another department from the following list: BCHM 102a, BCHM 104a, BCHM 145a, CHEM 141a, CHEM 142a, CHEM 146b, COSI 21a, COSI 112a, COSI 123a, COSI 130a, COSI 177a, COSI 180a, ECON 80a, ECON 161a, ECON 181b, ECON 182a, ECON 184b, NBIO 136b, NPHY 115a, any PHYS course numbered 20 or higher, and QBIO 110a.
- ☐ **Honors**
  - ☐ **One** of:
    - ☐ Two MATH courses numbered 201a or higher. (Cross-listed courses do not count toward this requirement)
    - ☐ Completion and defense of a senior honors thesis. Students considering this option should enroll in MATH 99a and MATH 99b. A written thesis proposal must be prepared at the beginning of the first semester, and be approved by the committee and the Undergraduate Advising Head, prior to registration for the course.

- ☐ In addition, all majors must satisfy the **Brandeis Core** requirements: To view the list of math courses that fulfill Foundational Literacy Requirements, view the Requirements for the Major in the University Bulletin (and then scroll down toward the bottom of the page, just before the section on "Math Cross Listed").
  - ☐ Oral Communication
  - ☐ Writing Intensive
  - ☐ Digital Literacy