

Checklist for Mathematics Major

- Students interested in the mathematics major should follow your math placement, and take Calculus I as early as possible, because it is part of the major required sequence MAT 117/131H, 118/132H, 231, 232.
- Students considering a major in mathematics are encouraged to take MAT 131H/132H rather than MAT 117/118 in their first year.
- Each mathematics major must pass a comprehensive examination administered at the end of the fall or the spring semester of the senior year. The exam is based on material covered in the required courses.

Required Courses (8)

| Requirement | Course | Fall | Spring | Prerequisite | Semester Planned | Completed |
|--|-----------------------|--------|--------|-------------------------|------------------|-----------|
| Calculus I | MAT 131H or | x | | Placement | | |
| | MAT 117 | x | x | MAT 114 or placement | | |
| Calculus II | MAT 132H or | | x | MAT 131H | | |
| | MAT 118 | x | x | MAT 117 | | |
| Programming | CSC 117 or CSC 120 | x x | x | MAT 111 or placement | | |
| Calculus III | MAT 231 | x | | MAT 118 or MAT 132H | | |
| Multivariable Calculus | MAT 232 | | x | MAT 231 | | |
| Discrete Structures | MAT 202 | x | | MAT 118/132H, or coreq. | | |
| Linear Algebra | MAT 203 | | x | MAT 202 | | |
| Mathematics Seminar | MAT 401 | x | | Senior math major | | |
| Senior Math Assessment (Comp. Exam, not a course) | | x | x | Senior math major | | |

Electives (4)

| Requirement | Course | Fall | Spring | Prerequisite | Semester Planned | Completed |
|--|---------|--------------|--------|--------------------------|------------------|-----------|
| A. Take at least one of: | | | | | | |
| Real Analysis | MAT 332 | Odd | | MAT 202 and MAT 231 | | |
| Modern Algebra | MAT 351 | Even | | MAT 202 | | |
| Topology | MAT 358 | | Even | MAT 202 and MAT 231 | | |
| B. Take at least one more 300+ level from above or from B: | | | | | | |
| Modern Algebra II | MAT 352 | | Odd | MAT 351 | | |
| Adv. Euclidean Geometry | MAT 353 | Odd | | MAT 118/132H and MAT 202 | | |
| Differential Equations | MAT 355 | | Odd | MAT 231, or corequisite | | |
| Numerical Analysis | MAT 356 | | Even | MAT 118/132H | | |
| Mathematics Thesis | MAT 402 | x | x | Senior math major | | |
| C. Take at least two more 200+ level Math courses from above, or: | | | | | | |
| Number Theory | MAT 204 | | Even | MAT 202 | | |
| Actuarial Mathematics | MAT 207 | Even | | MAT 202 | | |
| Probability Theory | MAT 208 | | x | MAT 118/132H | | |
| Special Topics in Math | MAT 299 | Occasionally | | MAT 117 | | |
| Intro to Engineering | PHY 213 | | x | MAT 118/132H, or coreq. | | |

Suggested Schedule for Mathematics Major

See Assumption's Catalog for additional information, e.g. Foundations requirements.

| First Year: Fall 20____ | Spring 20____ |
|--|--|
| 1. MAT 131H Honors Calculus I (Fall only), or MAT 117 Calculus I (any semester), or follow your math placement | 1. MAT 132H Honors Calculus II (Spring only), or MAT 118 Calculus II (any semester). Finish Calculus II as soon as possible. |
| 2. CSC 117 Intro. Programming (Fall) or CSC 120 Stats Programming (any semester) | 2. |
| 3. | 3. |
| 4. | 4. |
| 5. | 5. |

| Second Year: Fall 20____ | Spring 20____ |
|---------------------------------------|--|
| 1. MAT 202 Discrete Structures (Fall) | 1. MAT 203 Linear Algebra (Spring) |
| 2. MAT 231 Calculus III (Fall) | 2. MAT 232 Multivariable Calculus (Spring) |
| 3. | 3. |
| 4. | 4. |
| 5. | 5. |

| Third Year: Fall 20____ | Spring 20____ |
|-------------------------------|-------------------------------|
| 1. Math Major Elective #1/4 * | 1. Math Major Elective #2/4 * |
| 2. | 2. |
| 3. | 3. |
| 4. | 4. |
| 5. | 5. |

| Fourth Year: Fall 20____ | Spring 20____ |
|---------------------------------------|---------------------------------------|
| 1. MAT 401 Mathematics Seminar (Fall) | 1. Math Major Elective #4/4 * |
| 2. Math Major Elective #3/4 * | 2. |
| 3. | 3. |
| 4. | 4. |
| 5. | 5. |
| | Sr Math Assessment Exam; not a course |

* = electives may be taken any semester