

Roadmap B.S. in Mathematics: Applied Mathematics option For Transfer Students

This guide is an unofficial document intended to be used for advising and course planning. This document cannot be used to waive or supersede requirements listed in the catalog. Fulfillment of all University requirements (including required units) will be determined by the office of the Registrar.

This guide assumes that the student has satisfied and transferred from community college all of the lower division GE requirements, and the following courses: MATH 75, 76, 77, 81 and PHYS 4A. All of these courses are required for the Mathematics major. Students also need to earn at least 120 units in total.

| YEAR 1: FALL | | | YEAR 1: SPRING | | |
|---|-------|---|--|-------|--|
| COURSE | UNITS | PREREQ | COURSE | UNITS | PREREQ |
| MATH 111 | 4 | MATH 76 | MATH 101 (if MATH 107 not taken) or MATH Elective ² | 3/4 | Prereq. for MATH 101: MATH 75 |
| MATH 152 ¹ | 4 | MATH 77 | MATH 193A (Spring only) | 1 | MATH 111 and at least two of MATH 109, 121, 122, 123, 152, 181, and 182 or permission. |
| MATH Elective ² /MATH 107 | 3 | See table below / MATH 77 | MATH Elective ² | 3 | See table below |
| UD GE IB / CSCI 40 / MATH 120 (if CSCI 40/41 not taken at CC) | 3/4 | Prereq. for MATH 120: MATH 77 & CSCI 40 | UD GE IC | 3 | |
| | | | UD GE ID ⁰ | 3 | |
| TOTAL UNITS | 14/15 | | TOTAL UNITS | 13/14 | |

| YEAR 2: FALL | | | YEAR 2: SPRING | | |
|---------------------------------------|-------|---------------------------------------|---|-------|---------------------------------------|
| COURSE | UNITS | PREREQ | COURSE | UNITS | PREREQ |
| MATH 151/171 ¹ | 4 | MATH 111; and MATH 152 (for MATH 151) | MATH 171/151 ¹ | 4 | MATH 111; and MATH 152 (for MATH 151) |
| MATH Elective ² | 3 | See table below | MATH 198 | 3 | MATH 151, 152, 171 (or permission) |
| MATH Elective ² | 3 | See table below | Free elective | 3 | |
| MATH 120 (if CSCI 41 not taken at CC) | 3 | CSCI 40 & MATH 76 | UD GE IB (if not taken yet) | 3 | |
| UD MI ⁰ | 3 | | Writing course (if writing requirement not satisfied yet) | 3 | |
| TOTAL UNITS | 16 | | TOTAL UNITS | 16 | |

⁰PHYS 4AL is not required for this option in the math major. If students wish to include PHYS 4A as a General Education Breadth course, they must also take PHYS 4AL.

⁰Consider taking ANTH 105W (UD MI) or ANTH 116W (UD GE ID) to satisfy your upper division Writing Skills Requirement.

¹ It is suggested to take MATH 81 before taking MATH 152.

¹ It is suggested to take MATH 128 and/or a math elective with MATH 111 as a prerequisite before taking MATH 171.

² The following table summarizes the MATH ELECTIVES for the APPLIED MATH option. Choose four courses from the following list. You must also take MATH 193A and MATH 198 (in Applied Mathematics). MATH 193A must be taken before MATH 198.

You should meet with your advisor from the Department of Mathematics every semester, to choose your MATH Electives.

| Course Number | Course Title | Prereq | Semester |
|---------------|--------------------------------|---------------------|-----------------|
| MATH 109 | Applied Probability | MATH 107 | Fall only |
| MATH 121 | Numerical Analysis I | MATH 77 and CSCI 40 | Spring only |
| MATH 122 | Numerical Analysis II | MATH 121 and 152 | Fall only |
| MATH 123 | Mathematical Modeling | MATH 77 | Fall and Spring |
| MATH 128 | Applied Complex Analysis | MATH 77 | Fall only |
| MATH 181 | Differential Equations | MATH 81 | Fall only |
| MATH 182 | Partial Differential Equations | MATH 81 | Spring only |

Advising note: Upper Division GE courses and MATH 101 may also be offered during summer sessions.