

## Roadmap B.S. in Mathematics: Pure Mathematics option

| YEAR 1: FALL                     |       |                    | YEAR 1: SPRING                              |       |                                    |
|----------------------------------|-------|--------------------|---------------------------------------------|-------|------------------------------------|
| COURSE                           | UNITS | PREREQ             | COURSE                                      | UNITS | PREREQ                             |
| MATH 75 (GE Area 2) <sup>0</sup> | 4     | CRT/ALEKS PPL      | MATH 76                                     | 4     | MATH 75/(75A&B)                    |
| CSCI 40                          | 4     | MATH 75 (Conc. OK) | MATH 101 or Free/MATH Elective <sup>2</sup> | 3/4   | MATH 75/(75A&B)<br>See table below |
| CSM 10 (GE Area 1B)              | 3     |                    | PHYS 4A+4AL (GE Area 5) <sup>0</sup>        | 4     | MATH 76 (Conc. OK)                 |
| GE Area 1C                       | 3     |                    | Univ. Req. S/L                              | 3     |                                    |
| <b>TOTAL UNITS</b>               | 14    |                    | <b>TOTAL UNITS</b>                          | 14/15 |                                    |

| YEAR 2: FALL                      |       |                 | YEAR 2: SPRING                    |       |                 |
|-----------------------------------|-------|-----------------|-----------------------------------|-------|-----------------|
| COURSE                            | UNITS | PREREQ          | COURSE                            | UNITS | PREREQ          |
| MATH 77                           | 4     | MATH 76         | MATH 81                           | 3     | MATH 77         |
| MATH 111                          | 4     | MATH 76         | MATH Elective <sup>2</sup> or 101 | 3/4   | See table below |
| MATH Elective <sup>2</sup> or 107 | 3/4   | See table below | GE Area 5B                        | 3     |                 |
| GE Area 1A                        | 3     |                 | GE Area 3A                        | 3     |                 |
|                                   |       |                 | HIST 11 or 12 (GE Area 4A)        | 3     |                 |
| <b>TOTAL UNITS</b>                | 14/15 |                 | <b>TOTAL UNITS</b>                | 15/16 |                 |

| YEAR 3: FALL               |       |                 | YEAR 3: SPRING                            |       |                                       |
|----------------------------|-------|-----------------|-------------------------------------------|-------|---------------------------------------|
| COURSE                     | UNITS | PREREQ          | COURSE                                    | UNITS | PREREQ                                |
| MATH 152 <sup>1</sup>      | 4     | MATH 77         | MATH 151 <sup>1</sup> or 171 <sup>1</sup> | 4     | MATH 111; and MATH 152 (for MATH 151) |
| MATH Elective <sup>2</sup> | 3/4   | See table below | MATH 193B (Spring only)                   | 1     | See table below                       |
| GE Area 3B                 | 3     |                 | MATH Elective <sup>2</sup>                | 3/4   | See table below                       |
| PL SI 2 (US & Ca Govt)     | 3     |                 | GE Area 4B                                | 3     |                                       |
| Univ. Req. A/H             | 3     |                 | GE Area 6                                 | 3     |                                       |
| <b>TOTAL UNITS</b>         | 16/17 |                 | <b>TOTAL UNITS</b>                        | 14/15 |                                       |

| YEAR 4: FALL                              |       |                                       | YEAR 4: SPRING                                               |       |                 |
|-------------------------------------------|-------|---------------------------------------|--------------------------------------------------------------|-------|-----------------|
| COURSE                                    | UNITS | PREREQ                                | COURSE                                                       | UNITS | PREREQ          |
| MATH 171 <sup>1</sup> or 151 <sup>1</sup> | 4     | MATH 111; and MATH 152 (for MATH 151) | MATH Elective <sup>2</sup> or MATH 198 (if not taken)        | 4/3   | See table below |
| MATH 198 or MATH 190                      | 3     | See table below                       | UD GE Area 2 / Area 5                                        | 3     |                 |
| Free Elective                             | 3     |                                       | UD GE Area 3                                                 | 3     |                 |
| UD GE Area 4 <sup>0</sup>                 | 3     |                                       | Writing course (if writing requirement is not satisfied yet) | 3     |                 |
| Univ. Req. M/I <sup>0</sup>               | 3     |                                       | Free Elective                                                | 3     |                 |
| <b>TOTAL UNITS</b>                        | 16    |                                       | <b>TOTAL UNITS</b>                                           | 15/16 |                 |

<sup>0</sup>3 units of MATH 75 (or MATH 75A) also will satisfy the G.E. Foundation Area 2 requirement.

<sup>0</sup>PHYS 4AL is not required for this option in the math major. If students wish to include PHYS 4A as a G.E Area 5A+5C course, they must also take PHYS 4AL.

<sup>0</sup>Consider taking ANTH 105W (Univ. Req. M/I) or ANTH 116W (UD GE Area 4) to satisfy your upper division Writing Skills Requirement.

<sup>1</sup> It is suggested to take MATH 81 before taking MATH 152, and MATH 152 before taking MATH 165.

<sup>1</sup> It is suggested to take MATH 116 before taking MATH 151, and at least one of MATH 161, 128 or 165 before taking MATH 171

<sup>2</sup>The MATH ELECTIVES for the PURE MATH option are as follows: Choose MATH 107 or MATH 114; MATH 128 or MATH 172; MATH 161 or MATH 165; MATH 193B, MATH 198 (in Pure Mathematics); \*plus one additional MATH elective (any 3-4 unit MATH course, upper division or graduate, excluding MATH 100, 102, 133, 134, 137, 138, 139. Special conditions apply for graduate courses.

**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 107              | Mathematical Statistics               | MATH 77 (concurrently OK)            | Fall only   |
| MATH 114              | Discrete Structure                    | MATH 111                             | Spring only |
| MATH 128 <sup>1</sup> | Applied Complex Analysis              | MATH 77                              | Fall only   |
| MATH 161              | Principles of Geometry                | MATH 111                             | Spring only |
| MATH 165 <sup>1</sup> | Differential Geometry                 | MATH 77 and MATH 111                 | Fall only   |
| MATH 172              | Intermediate Mathematical Analysis II | MATH 77 and MATH 171                 | Spring only |
| MATH 193B             | Junior Seminar in Pure Mathematics    | MATH 111 and 152 (Math 152 conc. OK) | Spring only |
| MATH 198              | Senior Project                        | MATH 151 & 171 (or permission)       |             |
| One Math Elective*    |                                       |                                      |             |