

## Math and Actuarial Science Double Major Requirements

### Part A: Required Prerequisites

|                               |                                                         |         |
|-------------------------------|---------------------------------------------------------|---------|
| Math 1151 & 1152              | Calculus I and Calculus II                              | 5 and 5 |
| AcctMIS 2000 or (2200 & 2300) | Foundations of Accounting or Introduction to Accounting | 3,3     |
| Econ 2001.01 and 2002.01      | Principles of Microeconomics and Macroeconomics         | 3 and 3 |
| Math 1295                     | Introductory Seminar                                    | 1       |

Choose one of the following three:

|          |                                                                          |   |
|----------|--------------------------------------------------------------------------|---|
| CSE 1222 | Introduction to Computer Programming in C++ for Engineers and Scientists | 3 |
| CSE 1223 | Introduction to Computer Programming in Java                             | 3 |
| CSE 2111 | Modeling and Problem Solving with Spreadsheets and Databases             | 3 |

Choose one of the following three:

|           |                                         |   |
|-----------|-----------------------------------------|---|
| Comm 2367 | Persuasive Communication                | 3 |
| Comm 2110 | Principles of Effective Public Speaking | 3 |
| Comm 2131 | Business and Professional Speaking      | 3 |

### Part B: Major Program (Minimum grade of C- and GPA of 2.0)

Note: Honors math courses may substitute for corresponding non-honors courses

|                        |                                                                       |        |
|------------------------|-----------------------------------------------------------------------|--------|
| Math 2153 or 2182H     | Calculus III or Honors Calculus II                                    | 4 or 5 |
| Math 2568 or 2568H     | Linear Algebra                                                        | 3      |
| Math 4530 or Stat 4201 | Probability or Introduction to Mathematical Statistics I <sup>1</sup> | 3-4    |
| Stat 4202              | Introduction to Mathematical Statistics II                            | 4      |

#### Required Courses for Actuarial Science Major (27 credit hours)

|                     |                                                |   |
|---------------------|------------------------------------------------|---|
| Math 3588           | Practicum in Actuarial Science                 | 3 |
| Math 3618           | Theory of Interest <sup>2</sup>                | 3 |
| Math 5630 and 5631  | Life Contingencies I and II <sup>3</sup>       | 6 |
| Math 5632           | Financial Economics for Actuaries <sup>4</sup> | 3 |
| BusFin 3120 or 3220 | Foundations of Finance or Business Finance     | 3 |
| English 3304        | Business and Professional Speaking             | 3 |

Choose one of the following sequences:

|                    |                                   |   |
|--------------------|-----------------------------------|---|
| Math 5633 and 5634 | Loss Models I and II <sup>5</sup> | 6 |
| Econ 5410 and 5420 | Econometrics I and II             | 6 |

#### Required Courses for Math Major (24 credit hours)

|                    |                                               |   |
|--------------------|-----------------------------------------------|---|
| Math 2255          | Differential Equations and Their Applications | 3 |
| Math 3345 or 3345H | Foundations of Higher Mathematics             | 3 |
| Math 4547 and 4548 | Introductory Analysis I and II                | 6 |
| Math 4580          | Abstract Algebra I                            | 3 |

Math Major Electives:

|                                                       |                    |                                       |
|-------------------------------------------------------|--------------------|---------------------------------------|
| Choose any 3 math courses at the 3000 level and above |                    | 9                                     |
| Suggested Courses                                     | Math 3607 or 3607H | Beginning Scientific Computing        |
|                                                       | Math 3589          | Introduction to Financial Mathematics |
|                                                       | Math 4581          | Abstract Algebra II                   |
| Total Hours                                           |                    | 65-67                                 |

**Math and Actuarial Science Double Major Sample Schedule**

|        | Autumn                              |     | Spring                              |       | Major Hours |
|--------|-------------------------------------|-----|-------------------------------------|-------|-------------|
| Year 1 | Math 1151                           | 5   | Math 1152                           | 5     | 0           |
|        | ARTSSCI 1100.01                     | 1   | English 1110                        | 3     |             |
|        | Econ 2001 or 2002                   | 3   | Econ 2001 or 2002                   | 3     |             |
|        | GE                                  | 3   | CSE 1222, 1223 or 2111              | 3     |             |
|        | GE                                  | 3   | GE                                  | 3     |             |
|        |                                     | 15  |                                     | 17    |             |
| Year 2 | Math 2153                           | 4   | Math 2568                           | 3     | 19-20       |
|        | Math 3618 <sup>2</sup>              | 3   | Math 2255                           | 3     |             |
|        | AcctMIS 2000                        | 3   | Math 3345                           | 3     |             |
|        | 2 GE's                              | 3,3 | Math 4530 or Stat 4201 <sup>1</sup> | 3-4   |             |
|        | Math 1295                           | 1   | GE                                  | 3     |             |
|        |                                     | 16  |                                     | 15-16 |             |
| Year 3 | Math 5630 <sup>3</sup>              | 3   | Math 5631 <sup>3</sup>              | 3     | 22          |
|        | Math 4547                           | 3   | Math 4548                           | 3     |             |
|        | Math 5632 <sup>4</sup>              | 3   | Math 3588                           | 3     |             |
|        | Stat 4202                           | 4   | GE                                  | 3     |             |
|        | GE                                  | 3   | GE                                  | 3     |             |
|        |                                     | 16  |                                     | 15    |             |
| Year 4 | Math 5633 <sup>5</sup> or Econ 5410 | 3   | Math 5634 <sup>5</sup> or Econ 5420 | 3     | 21          |
|        | Math 4580                           | 3   | Math Major Elective                 | 3     |             |
|        | Math Major Elective                 | 3   | Math Major Elective                 | 3     |             |
|        | BusFin 3120 or 3220                 | 3   | GE                                  | 3     |             |
|        | GE                                  | 3   | GE                                  | 3     |             |
|        |                                     | 15  |                                     | 15    |             |

Actuarial Exams: <sup>1</sup>SOA P/CAS 1    <sup>2</sup>SOA FM/CAS 2    <sup>3</sup>SOA MLC/CAS LC    <sup>4</sup>SOA MFE/CAS 3F    <sup>5</sup>SOA C/CAS 4

Additional hours may be necessary depending on course selection.

Students should complete the corresponding actuarial exam the semester after completing the correlate course.