

## B.S. Mathematics and Computer Science

*This is just one example of how a course of study could proceed. The degree offers lots of choice, see the audit for details.*

### First Year

#### Fall

| Course                                                                   | Prerequisite                            | Credit    |
|--------------------------------------------------------------------------|-----------------------------------------|-----------|
| UN 1014 or UN 1015 Composition                                           |                                         | 3         |
| MA 1160<br>Calculus with Technology I                                    | Qualifying<br>ALEKS/AP/ACT/SAT<br>score | 4         |
| MA 19XX<br>Elementary Mathematics Topics,<br>or other 19XX-coded courses |                                         | 3         |
| CS 1121<br>Intro to Programming I                                        | MA 1031(C)/<br>1032(C)/ 1120(C)         | 3         |
| Essential Education: Natural and<br>Physical Science                     |                                         | 3         |
| <b>Total</b>                                                             |                                         | <b>16</b> |

#### Spring

| Course                                                        | Prerequisite                                        | Credit    |
|---------------------------------------------------------------|-----------------------------------------------------|-----------|
| Essential Education:<br>Foundations of the Human<br>World     |                                                     | 3         |
| Essential Education: Activities<br>for Well-being and Success |                                                     | 1         |
| MA 2330<br>Introduction to Linear Algebra                     | MA<br>1160/1161/1135/1121                           | 3         |
| MA 2160<br>Calculus with Technology II                        | MA<br>1160/1161/1135/1121<br>or qualifying AP score | 4         |
| CS 1122<br>Intro to Programming II                            | CS 1121                                             | 3         |
| <b>Total</b>                                                  |                                                     | <b>14</b> |
|                                                               |                                                     |           |

### Second Year

#### Fall

| Course                                          | Prerequisite                         | Credit    |
|-------------------------------------------------|--------------------------------------|-----------|
| CS 1142<br>Programming at HW/SW Interface       | CS 1122/1131                         | 3         |
| Essential Education: SHAPE                      |                                      | 3         |
| MA 3160<br>Multivariable Calc with Tech         | MA 2160 or<br>qualifying AP<br>score | 4         |
| MA 3210<br>Intro to Combinatorics               | MA<br>2320/2321/2330                 | 3         |
| Essential Education:<br>Communication Intensive |                                      | 3         |
| <b>Total</b>                                    |                                      | <b>16</b> |

#### Spring

| Course                                           | Prerequisite                     | Credit    |
|--------------------------------------------------|----------------------------------|-----------|
| CS 2321<br>Data Structures                       | CS 1122/1131                     | 3         |
| Essential Education: Arts &<br>Culture           |                                  | 3         |
| MA 3560<br>Math Modeling with Diff. Eq.          | MA 2160 and MA<br>2320/2321/2330 | 3         |
| MA 2710<br>Intro to Statistical Analysis         | MA<br>1160/1161/1135/1121        | 3         |
| Essential Education:<br>Intercultural Competency |                                  | 3         |
| <b>Total</b>                                     |                                  | <b>15</b> |

### Third Year

#### Fall

| Course                                                        | Prerequisite                           | Credit    |
|---------------------------------------------------------------|----------------------------------------|-----------|
| Essential Education: Experience                               |                                        | 3         |
| Essential Education: Activities for<br>Well-being and Success |                                        | 1         |
| MA 3310<br>Intro to Abstract Algebra                          | MA<br>2320/2321/2330                   | 3         |
| CS 3141<br>Team Software Project                              | (CS 2311 or MA<br>3210) and CS<br>2321 | 3         |
| CS 3311<br>Formal Models of Computation                       | CS 2311 or MA<br>3210                  | 3         |
| Elective                                                      |                                        | 3         |
| <b>Total</b>                                                  |                                        | <b>16</b> |

#### Spring

| Course                                   | Prerequisite                              | Credit    |
|------------------------------------------|-------------------------------------------|-----------|
| MA 3450<br>Introduction to Real Analysis | MA 2160                                   | 3         |
| CS 3421<br>Computer Organization         | (CS 1141<br>and CS<br>1040) or CS<br>1142 | 3         |
| CS 3425<br>Intro to Database Systems     | (CS 2311 or<br>MA 3210)<br>and CS 2321    | 3         |
| Elective                                 |                                           | 3         |
| Elective                                 |                                           | 3         |
| <b>Total</b>                             |                                           | <b>15</b> |

## Fourth Year

Fall

| Course                                                     | Prerequisite                           | Credit    |
|------------------------------------------------------------|----------------------------------------|-----------|
| Essential Education: Activities for Well-being and Success |                                        | 1         |
| CS 4321<br>Introduction to Algorithms                      | (CS 2311 or<br>MA 3210)<br>and CS 2321 | 3         |
| Advanced Elective (CS)                                     |                                        | 3         |
| Advanced Elective (MA)                                     |                                        | 3         |
| Elective                                                   |                                        | 3         |
| <b>Total</b>                                               |                                        | <b>13</b> |

Spring

| Course                                   | Prerequisite | Credit    |
|------------------------------------------|--------------|-----------|
| Advanced Elective (CS)                   |              | 3         |
| Advanced Elective (MA)                   |              | 3         |
| Advanced Elective (CS or MA)             |              | 3         |
| MA 4900<br>Mathematical Sciences Project |              | 3         |
| Elective                                 |              | 3         |
| <b>Total</b>                             |              | <b>15</b> |

**Grand Total = 120 Credits**