

# COMPUTER SCIENCE, BS/MS MATHEMATICS ACCELERATED PROGRAM

To enable high-achieving and motivated students to earn both a bachelor degree in Computer Science and a graduate degree in Mathematics in five years, we offer a combined accelerated program. Students in the accelerated program can start to take graduate courses in the senior year and finish both the undergraduate degree in Computer Science and the graduate degrees in Mathematics in five years.

A student in the BS in Computer Science program needs to apply for the accelerated program by the end of the semester prior to the senior year. The admission standard to the Accelerated Program should be consistent with the MS in Mathematics program. Students in the accelerated program should meet the program requirements of both BS in Computer Science and MS in Mathematics programs.

- Major in Computer Science (<http://catalog.roosevelt.edu/undergraduate/health-science/computer-science-bs/>)
- Completion of 60 credit hours of undergraduate course work
- Have and maintain a minimum grade point average of 3.0
- Obtain permission from the MS in Mathematics director to take the required MS in Mathematics courses. In addition to the specific math courses for the Computer Science major, students are required to take MATH 232 CALCULUS II, MATH 233 CALCULUS III, MATH 290 INTRODUCTION TO PROOF, and either MATH 347 PROBABILITY THEORY or MATH 352 ANALYSIS during their undergraduate years as a prerequisite for the graduate degree in Mathematics. Note that this would allow a student to declare and complete a mathematics minor (<http://catalog.roosevelt.edu/undergraduate/health-science/minor/mathematics-minor/>) as part of this process.
- Upon completion of the Computer Science BS, apply to the MS in Mathematics program under the normal admission process. (<http://catalog.roosevelt.edu/graduate/admission/>)
- At most two grades of C or C+ are allowed in graduate courses; all other graduate coursework must have a grade of B- or higher, with a graduate GPA of at least 3.0.
- The completed degree requires a total of 33 credit hours of graduate coursework (which includes the 9 credit hours of graduate courses taken while an undergraduate).

The student will take the following three MS in Mathematics graduate courses as part of the Computer Science BS. All of the courses will receive credit toward the MS in Mathematics degree once the student is admitted to the MS in Mathematics program.

| Code     | Title                         | Credit Hours |
|----------|-------------------------------|--------------|
| MATH 409 | DATA MINING                   | 3            |
| MATH 489 | SPECIAL TOPICS (Cryptography) | 3            |
| MATH 423 | GAME THEORY AND APPLICATIONS  | 3            |

Your degree map is a general guide suggesting courses to complete each term on the academic pathway to your degree. It is based on the most current scheduling information from your academic program. Your program's degree map is reviewed annually and updated as schedules

change (although you retain the same course requirements as long as you are continuously enrolled in your degree program).

Always work closely with your academic advisor to understand curriculum requirements and scheduling, as each student's academic plan can look slightly different. No more than two grades of C (not C-) may be applied toward the 33 hours used for the degree. A graduate course can only be repeated once; no more than two courses can be repeated.

| Year 1                               |                           |              |
|--------------------------------------|---------------------------|--------------|
| Fall                                 | Credit Hours Spring       | Credit Hours |
| FYS 101                              | 1 ENG 102                 | 3            |
| ENG 101                              | 3 Ideas of Social Justice | 3            |
| MATH 121 <sup>4</sup>                | 3 CST 150                 | 4            |
| Social Science #1                    | 3 MATH 217                | 3            |
| Humanities #1                        | 3 MATH 122                | 3            |
| Physical Science Course <sup>3</sup> | 3                         |              |
|                                      | <b>16</b>                 | <b>16</b>    |

| Year 2   |                     |              |
|----------|---------------------|--------------|
| Fall     | Credit Hours Spring | Credit Hours |
| CST 250  | 4 CST 261           | 3            |
| MATH 245 | 3 CST 280           | 3            |
| COMM 101 | 3 MATH 246          | 3            |
| MATH 231 | 5 Social Science #2 | 3            |
| MATH 290 | 1 MATH 232          | 5            |
|          | <b>16</b>           | <b>17</b>    |

| Year 3                       |   |              |
|------------------------------|---|--------------|
| Fall                         | Credit Hours Spring                     | Credit Hours |
| CST 333                      | 3 MATH 352 or 347                       | 3            |
| CST 317                      | 3 Concentration/ Major elective         | 3            |
| CST 372                      | 3 Social Science #3                     | 3            |
| BIOL 111 or 112 <sup>3</sup> | 4 Experiential Learning #1 <sup>2</sup> | 3            |
| MATH 233                     | 3                                       |              |
|                              | <b>16</b>                               | <b>12</b>    |

| Year 4                                |                        |              |
|---------------------------------------|------------------------|--------------|
| Fall                                  | Credit Hours Spring    | Credit Hours |
| CST 348                               | 3 CST 378, 394, or 399 | 3            |
| MATH 409                              | 3 MATH 489             | 3            |
| Experiential Learning #2 <sup>2</sup> | 3 Humanities #3        | 3            |
| MATH 423                              | 3 General Elective     | 3            |
| Humanities #2                         | 3                      |              |
|                                       | <b>15</b>              | <b>12</b>    |

| Year 5   |                       |              |
|----------|-----------------------|--------------|
| Fall     | Credit Hours Spring   | Credit Hours |
| MATH 430 | 3 MATH 4XX or CST 4XX | 3            |
| MATH 4XX | 3 MATH 4XX or CST 4XX | 3            |

|                        |                          |           |
|------------------------|--------------------------|-----------|
| MATH 4XX               | 3 MATH 4XX or<br>CST 4XX | 3         |
| MATH 4XX or<br>CST 4XX | 3 MATH 4XX or<br>CST 4XX | 3         |
|                        | <b>12</b>                | <b>12</b> |

**Total Credit Hours 144**

<sup>1</sup> Or a course towards optional Minor.

<sup>2</sup> Experiential Learning class must be 200/300 level. Satisfies CORE Experiential Learning requirement.

<sup>3</sup> One Natural Science course must have a lab.

<sup>4</sup> Students who require extra support in MATH 121 COLLEGE ALGEBRA should take the corequisite MATH 021 ALGEBRAIC FOUNDATIONS course. Those who place into a higher level math course may begin with MATH 122 TRIGONOMETRY AND PRECALCULUS or the calculus sequence.