B.S. in Computer Science-Mathematics

Degree Requirements (120 credits)  (Revised Fall '14)

For Students matriculating on or after Fall 2013

General Education Requirements (42 credits)  Credits
Required Common Core                      12
Flexible Common Core                      18
College Options                           12
See Attachment for Recommended and suggested courses in this category.

Pre-Computer Science Sequence (4 credits)
CSC 126     Introduction to Computer Science  4
Note: A grade of C or above in CSC 126 is required to be admitted to Computer Science-Mathematics Baccalaureate program. Students will be allowed to repeat the course if necessary.

Pre-Major Requirements (26-29 credits)  (should be completed prior to their junior year.)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MTH 229</td>
<td>Calculus Computer Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>MTH 231</td>
<td>Analytic Geometry and Calculus I</td>
<td>3</td>
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<tr>
<td>MTH 232</td>
<td>Analytic Geometry and Calculus II</td>
<td>3</td>
</tr>
<tr>
<td>MTH 233</td>
<td>Analytic Geometry and Calculus III</td>
<td>3</td>
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OR

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<tr>
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<th>Credits</th>
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<tbody>
<tr>
<td>MTH 229</td>
<td>Calculus Computer Laboratory</td>
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<tr>
<td>MTH 230</td>
<td>Calculus I with Pre-Calculus</td>
<td>6</td>
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<tr>
<td>MTH 232</td>
<td>Analytic Geometry and Calculus II</td>
<td>3</td>
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<tr>
<td>MTH 233</td>
<td>Analytic Geometry and Calculus III</td>
<td>3</td>
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AND

<table>
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<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CSC 220</td>
<td>Computers &amp; Programming</td>
<td>4</td>
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<tr>
<td>CSC 211</td>
<td>Intermediate Programming</td>
<td>4</td>
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</table>

AND

Two courses with laboratories chosen from one of the following sequences: Total 8 credits
BIO 170-171, 180-181   General Biology I and II with laboratories
CHM 141-121,142-127   General Chemistry I and II with laboratories
PHY 120-121, 160-161   General Physics I and II with laboratories
GEO 100-101, 102-103   Physical and Historical Geology with laboratories
AST 120-160           Space Science I and II with laboratories

Major Requirements (52 credits)  Credits
CSC 228               Discrete mathematical Structures  4
Computer Science: (24 credits)
CSC 326  Information Structures  4
CSC 330  Systems programming;  
Concepts of Software Design  4
CSC 346  Switching and Automata Theory  4
CSC 382  Analysis of Algorithms  4

Any two 400 level CS advanced electives  8 (NOTE: 430 and 446 are not included)

Mathematics:  (24 credits)  
Total  24 credits

MTH 301  Introduction to Mathematical Proof  4
MTH 311  Probability Theory and an Introduction to Mathematical Statistics  4
MTH 335  Numerical Analysis  4
MTH 338  Linear Algebra  4

Any two of the following Mathematics Courses  :  8
Total  24 credits

MTH 330  Applied Mathematical Analysis I  4
MTH 337  Applied Combinatorics & Graph Theory  4
MTH 341  Advanced Calculus  4
MTH 347  Number Theory  4
MTH 349  Cryptology  4
MTH 350  Mathematical Logic  4
MTH 370  Operations Research  4
MTH 410  Mathematical Statistics I  4
MTH 339  Abstract Algebra I  4

Electives (0-10 credits)  
See the 8 semester Sample Schedule

Total (120 credits)

To graduate with Honors in the major, students must have at least a 3.5 GPA in the courses under the major requirement category and must complete an Honors thesis or project.

Note:  
1. GPA Requirement - In order to graduate, you will need an overall GPA of 2.0 as well as a GPA of 2.0 in the courses under major requirement category.

2. Residency Requirement – To obtain a B.S. degree from CSI, students must earn at least 30 credits at CSI and must also earn at least half (50%) of the credits in the major requirement category at CSI. For details refer to the catalog.

3. Liberal Arts and Sciences Requirement - For a B.S. degree NY state requires that one half of credits must be in Liberal Arts and Sciences. For details refer to the catalog.

Courses used to fulfill premajor requirement can be used to fulfill gen-ed requirement.