Degree Worksheet for the College of Arts and Sciences: 2019-2020

B.S. APPLIED MATHEMATICS - Computer Science Concentration

COLLEGE of ARTS & SCIENCES
Language Requirement

All students who major in the College of Arts & Sciences are required to demonstrate competence in a second language. For complete details: https://my.gonzaga.edu/academics/undergraduate-programs/general-degree-requirements-procedures/university-core

B.S. APPLIED MATHEMATICS: 61 CREDITS

APPLIED MATHEMATICS: 34 Credits

LOWER DIVISION
Course Title
MATH 157 Calculus & Analytic Geometry I
MATH 258 Calculus & Analytic Geometry II
MATH 259 Calculus & Analytic Geometry III
MATH 231 Discrete Structures
CPSC 121 Computer Science I

UPPER DIVISION
Course Title
MATH 301 Fundamentals of Mathematics
MATH 339 Linear Algebra
MATH 350 Elementary Numerical Analysis
MATH 437 Abstract Algebra
MATH 499 Comprehensive

One of the following two courses:
MATH 321 Statistics for Experimentalists
MATH 422 Mathematical Statistics

If MATH 422 is chosen, then one MATH 400 level elective (must be above Math 100) may be replaced by a MATH 300 level elective.

COMPUTER SCIENCE CONCENTRATION
27 Credits

One of the following three courses:
MATH 457 Number Theory & Cryptography
MATH 454 Partial Differential Equations
MATH 462 Nonlinear Systems & Chaos

Mathematics 300-400 Level Electives:
6 Credits
MATH

Mathematics 400 Level Electives:
6 Credits
MATH

A minimum of 9 credits must be from the Math electives list; cannot double-count with another requirement.

NOTE: some courses have pre-requisites, check the catalog carefully!

BROADENING COURSES - see approved list**

Social & Behavioral Science
Literature
History
Fine Arts & Design

REQUIRED COURSE DESIGNATIONS - see approved list**

*Writing Enriched
Social Justice
*Global Studies

6 total

**for list of approved RELI, Broadening & Designated courses, see: https://my.gonzaga.edu/academics/undergraduate-programs/general-degree-requirements-procedures/university-core

Continued on Page 2
### CPSC 300-400 Level Electives:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPSC 310-319</td>
<td>Special Topics</td>
</tr>
<tr>
<td>CPSC 321</td>
<td>Database Management Systems</td>
</tr>
<tr>
<td>CPSC 326</td>
<td>Organization of Programming Language</td>
</tr>
<tr>
<td>CPSC 351</td>
<td>Theory of Computation</td>
</tr>
<tr>
<td>CPSC 353</td>
<td>Applied Cryptography</td>
</tr>
<tr>
<td>CPSC 360</td>
<td>Introduction to Robotics</td>
</tr>
<tr>
<td>CPSC 410-414</td>
<td>Advanced Topics</td>
</tr>
<tr>
<td>CPSC 425</td>
<td>Computer Graphics</td>
</tr>
<tr>
<td>CPSC 427</td>
<td>Artificial Intelligence</td>
</tr>
<tr>
<td>CPSC 447</td>
<td>Computer Networks</td>
</tr>
<tr>
<td>CPSC 450</td>
<td>Design &amp; Analysis-Computer Algorithms</td>
</tr>
<tr>
<td>CPSC 475</td>
<td>Speech &amp; Natural Language Processing</td>
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</tbody>
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*(CPSC 321, 351, 353, and 450 are the recommended elective choices)*

Remember to check for pre-requisites when selecting electives.