

This degree requires a minimum of 120 credit hours to graduate (at least 36 credit hours must be upper-division, 300 or 400-level) and a cumulative GPA of 2.0. A minimum of 30 credit hours must be earned at Park.

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION SYSTEMS  
Chair, Bin “Crystal” Peng, Ph.D. ([crystal.peng@park.edu](mailto:crystal.peng@park.edu))

Catalog AY21-22

## MAJOR MAP

### BACHELOR OF SCIENCE IN INFORMATION AND COMPUTER SCIENCE – CYBERSECURITY

Purpose Statement: This degree equips students to apply problem-solving and critical-thinking skills and use popular computer technologies in producing technology solutions. This program covers skills and knowledge needed in cybersecurity and related fields, including cryptography, computer system security, network security, web security, secure programming, security management, digital forensics, ethical hacking and countermeasures, etc. Also, it prepares students for graduate school in the field of cybersecurity.

Example Career Info:

- Occupational Outlook Handbook > Information Security Analysts: <https://www.bls.gov/ooh/computer-and-information-technology/information-security-analysts.htm>
- O\*NET Online > Information Security Analysts: <https://www.onetonline.org/link/summary/15-1122.00>

	Credit Hours
<b>University Liberal Education Requirements</b>	<b>37</b>
LE 100, First-Year Seminar ( <i>first-time freshman only; waived for transfer students</i> )	3
EN 105 First-Year Writing Seminar I	3
EN 106 First-Year Writing Seminar II	3
Math requirement: MA 120, MA 135, or higher MA course (will be satisfied in core)	*
Ethics requirement (will be satisfied in core)	*
Humanities requirement	6
Natural Science requirement	3
Science with a lab requirement	4
Citizenship requirement	3
Communications requirement: CA 103, CA 105, or TH 105.	3
Social Science requirement	6
LE 300: Seminar in Integrative and Interdisciplinary Learning	3
<b>University Graduation Requirements – BS</b>	<b>6</b>
36 hours upper division (300 – 400) level course work	*
Writing Across the Curriculum	
• Professional Writing: EN 306a/b/c	3
• A Writing Intensive (WI) course from the major: CSIS WI course (will be satisfied in core)	*
• A WI course outside of the major	3
<b>Requirements for the Major</b>	
<b>Core Curriculum</b>	<b>21</b>
CS 152 Introduction to Python Programming	3
CS 208 Discrete Mathematics	3
CS 300 Technology in a Global Society (LE Ethics, CSIS WI course)	3
CS 365A Computer Networking I	3
IS 205 Managing Information Systems	3
IS 361 Data Management Concepts	3

This guide is not a substitute for academic advisement.

MA 120 Basic Concepts of Statistics (LE Math)	3
<b>Cybersecurity:</b>	<b>33</b>
CS 202 Secure Programming	3
CS 319 Computer Architecture	3
CS 335 Introduction to Cybersecurity	3
CS 351 Computer Operating Systems	3
CS 366A Computer Networking II	3
CS 375 Secure Operation	3
CS 377 Digital Forensics	3
CJ 316 Cybersecurity Administration (offered online only) or IS370 Information Security	3
<b>Select three courses from this list:</b>	
CS 240 Web Programming I	3
CS 252 Object Oriented Programming	3
CS 322 Web Programming II	3
CS 369 Operating System Administration	3
CS 371 Internetworking	3
CS 372 Advanced Networking	3
<b>Additional Courses</b>	
Additional courses in or outside of the major.	<b>23</b>
<b>TOTALS</b>	<b>120</b>

### Recommended Schedule

**Plan A:** You already have MA125 or equivalent, or have tested out. CS152 and CS208 require a grade of C or higher in MA125. Take Park's math placement test ASAP to know which math course you should start with.

First Year – Fall (15 cr.)	First Year – Spring (15 cr.)
CS152 CS208 LE100 EN105 LE elective 1*	IS205 MA120 EN106 LE elective 2 LE elective 3
Second Year – Fall (15 cr.)	Second Year – Spring (16 cr.)
CS319 CS365A IS361 LE elective 4 LE elective 5	CS335 CS366A LE elective 6 LE elective 7 LE science with a lab (4 cr.)
Third Year – Fall (15 cr.)	Third Year – Spring (15 cr.)
CS202 CS375 IS370 or CJ316 EN306 Additional course 1†	CS300 CS351 Select-Three 1# Additional course 2 Additional course 3
Fourth Year – Fall (15 cr.)	Fourth Year – Spring (14 cr.)
LE300 Select-Three 2 Select-Three 3 Additional course 4 Additional course 5	CS377 A WI course outside of the major Additional course 6 Additional course 7 Additional course 8

**Plan B:** You need to take MA125. CS152 and CS208 require a grade of C or higher in MA125.

<b>First Year – Fall (15 cr.)</b>	<b>First Year – Spring (15 cr.)</b>
MA125 (additional course 1†) LE100 EN105 LE elective 1* LE elective 2	CS152 CS208 EN106 LE elective 3 LE elective 4
<b>Second Year – Fall (15 cr.)</b>	<b>Second Year – Spring (16 cr.)</b>
IS361 CS365A LE elective 5 LE elective 6 LE elective 7	CS335 CS366A IS205 MA120 LE science with a lab (4 cr.)
<b>Third Year – Fall (15 cr.)</b>	<b>Third Year – Spring (15 cr.)</b>
CS202 CS319 IS370 or CJ316 EN306 Additional course 2	CS300 CS351 Select-Three 1# Additional course 3 Additional course 4
<b>Fourth Year – Fall (15 cr.)</b>	<b>Fourth Year – Spring (14 cr.)</b>
CS375 LE300 Select-Three 2 Select-Three 3 Additional course 5	CS377 A WI course outside of the major Additional course 6 Additional course 7 Additional course 8

\* LE (Liberal Education) Elective: Aside from MA120 (Math), CS300 (Ethics), and Science with a lab (4 cr.), you will need 7 more LE courses: 2 Humanities, 1 Natural Science, 1 Citizenship, 1 Communication, and 2 Social Science. For a list of qualifying courses, see Liberal Education Requirements section in the degree description of this program in the catalog: <https://catalog.park.edu/>.

† Additional Course: any additional courses in or outside of the major. You need 23 credit hours (8 additional courses) to reach 120 credit hours.

# Select-Three: may start earlier depending on the courses you pick and when courses are offered. Check CSIS Course rotation table (home campus): [https://my.park.edu/ICS/Offices/Information\\_and\\_Computer\\_Science/](https://my.park.edu/ICS/Offices/Information_and_Computer_Science/)



# B.S. in Information and Computer Science Specialty Area – Cybersecurity

