BS in Cybersecurity (396527) MAP Sheet
Engineering, School of Technology
For students entering the degree program during the 2018-2019 curricular year.

<table>
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<td><strong>Religion Cornerstones</strong></td>
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<tr>
<td>Teachings and Doctrine of The Book of Mormon</td>
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<tr>
<td>Jesus Christ and the Everlasting Gospel</td>
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<td>Foundations of the Restoration</td>
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<td>The Eternal Family</td>
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<td>3.0</td>
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<tr>
<td>Global and Cultural Awareness</td>
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<td><strong>Skills</strong></td>
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<td>First Year Writing</td>
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<tr>
<td>Advanced Written and Oral Communications</td>
<td>ENGL 316*</td>
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<tr>
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<td>MATH 112*</td>
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<td>Languages of Learning (Math or Language)</td>
<td>MATH 112*</td>
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<td><strong>Arts, Letters, and Sciences</strong></td>
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<td>Civilization 1</td>
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<td>Biological Science</td>
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<td>Physical Science</td>
<td>IT 327*</td>
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<td>Social Science</td>
<td>ECON 110* or ENG T 231*</td>
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<td><strong>Core Enrichment: Electives</strong></td>
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<td>Religion Electives</td>
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*THESE CLASSES FILL BOTH UNIVERSITY CORE AND PROGRAM REQUIREMENTS

**Graduation Requirements:**
Minimum residence hours required 30.0
Minimum hours needed to graduate 120.0

**SUGGESTED SEQUENCE OF COURSES**

**FRESHMAN YEAR**

1st Semester
- First-year Writing or American Heritage 3.0
- IT 101 3.0
- C S 142 3.0
- MATH 112 4.0
- Religion Cornerstone course 2.0
- Total Hours 15.0

2nd Semester
- First-year Writing or American Heritage 3.0
- Biological Science 3.0
- C S 235 3.0
- IT 124 3.0
- TECH 112 1.0
- Religion Cornerstone course 2.0
- Total Hours 15.0

**SOPHOMORE YEAR**

3rd Semester
- IT 210A 2.0
- IT 210B 2.0
- IT 291R 0.5
- ECON 110 or PSYCH 111 3.0
- STAT 201 3.0
- General Elective 3.0
- Religion Cornerstone course 2.0
- Total Hours 15.5

4th Semester
- IT 270 2.0
- IT 291R 0.5
- C S 236 3.0
- PHSCS 121 3.0
- IT 252 3.0
- IT 255 3.0
- IT 291R 0.5
- Religion Cornerstone course 2.0
- Total Hours 14.5

**JUNIOR YEAR**

5th Semester
- IT 327 4.0
- IT 344 3.0
- IT 347 3.0
- IT 291R 0.5
- ENGL 316 3.0
- Religion elective 2.0
- Total Hours 15.5

6th Semester
- IT 350 3.0
- IT 366 3.0
- IT 491 0.5
- ENG T 231 3.0
- Religion Elective 3.0
- Total Hours 14.5

**SENIOR YEAR**

7th Semester
- IT 446 2.0
- IT 567 3.0
- IT Technical Elective 3.0
- Civilization 1 3.0
- General Elective 3.0
- Religion Elective 2.0
- Total Hours 15.0

8th Semester
- IT 447 3.0
- IT 566 3.0
- Arts or Letters 3.0
- Civilization II and Arts or Letters 3.0
- General Elective 3.0
- Total Hours 15.0
BS in Cybersecurity (396527)
2018-2019 Program Requirements (77 Credit Hours)

Students must have a minimum of 120 total hours to graduate with this major.

REQUIREMENT 1 Complete 9 courses
- C S 142 - Introduction to Computer Programming 3.0
- C S 235 - Data Structures and Algorithms 3.0
- C S 236 - Discrete Structures 3.0
- *ENG T 231 - Foundations of Global Leadership 3.0
- *ENG 316 - Technical Communication 3.0
- *MATH 112 - Calculus 1 4.0
- PHSCS 121 - Introduction to Newtonian Mechanics 3.0
- STAT 201 - Statistics for Engineers and Scientists 3.0
- TECH 112 - Exploration in Innovation Design Techniques 1.0

REQUIREMENT 2 Complete 1 course
- ECON 110 - Economic Principles and Problems 3.0
- PSYCH 111 - Introduction to Psychological Science 3.0

REQUIREMENT 3 Complete 16 courses

NOTE: IT 210B AND 252 MUST BE COMPLETED WITH A GRADE OF C OR HIGHER PRIOR TO ENTERING ANY 300-LEVEL IT COURSE.

- IT 101 - Cornerstone: Information Technology 3.0
- IT 124 - Introduction to Computer Systems 3.0
- IT 210A - Fundamentals of Web-Based Information Technology 2.0
- IT 210B - Fundamentals of Web-Based Information Technology 2.0
- IT 252 - Computer Architecture and Organization 3.0
- IT 255 - Human-Computer Interaction 3.0
- *IT 327 - Digital Communications 4.0
- IT 344 - Operating Systems 3.0
- IT 347 - Computer Networks 3.0
- IT 350 - Database Principles and Applications 3.0
- IT 366 - Information Assurance and Security 3.0
- IT 446 - Senior Project / Capstone 1 2.0
- IT 447 - Senior Projects/Capstone 2 3.0
- IT 491 - Professional Seminar 0.5
- IT 566 - Digital Forensics 3.0
- IT 567 - Cyber Security and Penetration Testing 3.0

REQUIREMENT 4 Complete 1.5 hours from the following course(s)

TAKE THE FOLLOWING 3 TIMES:
- IT 291R - Professional Seminar 0.5
  You may take up to 1 credit hour.

REQUIREMENT 5 Complete 3.0 hours from the following course(s)

COURSES OUTSIDE OF THOSE LISTED MUST BE PRE-APPROVED BY THE PROGRAM. IT 492R AND 515R MUST HAVE A CYBERSECURITY-RELATED TOPIC.

IS 565 - Digital Forensics for Organizations 3.0
IT 492R - Special Problems in Information Technology 3.0v
IT 515R - Special Topics in Information Technology 3.0v
IT 529 - Advanced Networking 3.0
IT 544 - System Administration 3.0
IT 548 - Cyber-Physical Systems 3.0
MATH 485 - Mathematical Cryptography 3.0

REQUIREMENT 6
Complete department packet and exit interview.

THE DISCIPLINE:

Cybersecurity is a computing-based discipline involving technology, people, information, and processes to protect computing systems from adversaries. It involves the creation, operation, analysis, and testing of secure computing systems. Cybersecurity professionals know how to secure websites, mobile apps, operating systems, databases, networks, and embedded computing systems. They stay current on the latest computer vulnerabilities, help prevent employees from falling victim to social engineering attacks, collaborate with leadership to mitigate and manage risks, monitor systems to identify intruders, and respond effectively when successful attacks occur. Penetration testers, also known as Red Team members, are hired by companies and organizations to identify vulnerabilities by ethically hacking into systems. Digital forensics investigators use sophisticated tools to track down attackers and capture evidence that can be used in court.

Because of the influence and leadership roles we expect graduates to have, our students will be encouraged to develop high moral and ethical standards as well as being conversant with and compliant with professional and legal standards.

CAREER OPPORTUNITIES:

The field has grown tremendously in recent years and is expected to continue rapid growth in the coming decades. BYU’s Cybersecurity program is recognized as a National Center of Academic Excellence in Cyber Defense by the NSA/DHS and has placed students in the public and private sector at top companies both small and large. Graduates fill roles as penetration testers, forensics computer analysts, network and systems administrators, data security engineers, information security analysts, security architects, IT security engineers, and Chief Information Security Officers.

MAP DISCLAIMER

While every reasonable effort is made to ensure accuracy, there are some student populations that could have exceptions to listed requirements. Please refer to the university catalog and your college advisement center/department for complete guidelines.

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