For students entering the degree program during the 2022-2023 curricular year.

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 work experience.

<table>
<thead>
<tr>
<th>University Core and Graduation Requirements</th>
<th>Suggested Sequence of Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>University Core Requirements:</strong></td>
<td><strong>FRESHMAN YEAR</strong></td>
</tr>
<tr>
<td>Requirements</td>
<td>1st Semester</td>
</tr>
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<td>#Classes Hours Classes</td>
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<tr>
<td>Religion Cornerstones</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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<tr>
<td>Foundations of the Restoration</td>
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<td>The Eternal Family</td>
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<td>The Individual and Society</td>
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<tr>
<td>American Heritage</td>
<td>1-2 3-6.0 from approved list</td>
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<tr>
<td>Global and Cultural Awareness</td>
<td>1 3.0 from approved list</td>
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<tr>
<td>Skills</td>
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<tr>
<td>First Year Writing</td>
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<tr>
<td>Advanced Written and Oral Communications</td>
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<tr>
<td>Quantitative Reasoning</td>
<td>1 4.0 MATH 112* or ACT</td>
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<tr>
<td>Languages of Learning (Math or Language)</td>
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</tr>
<tr>
<td>Arts, Letters, and Sciences</td>
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<tr>
<td>Civilization 1</td>
<td>1 3.0 from approved list</td>
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<tr>
<td>Civilization 2</td>
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<td>Letters</td>
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<td>Physical Science</td>
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<tr>
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<tr>
<td>Core Enrichment: Electives</td>
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<tr>
<td>Religion Electives</td>
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<td>Open Electives Variable Variable personal choice</td>
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<td>PHSCS 121</td>
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<tr>
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<td>IT&amp;C 210B</td>
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<td>IT&amp;C 291R</td>
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<td>Civilization I</td>
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<td>IT&amp;C 567</td>
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<td>IT&amp;C 293</td>
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<td>IT&amp;C 291R</td>
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<td>Religion Cornerstone course</td>
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<tr>
<td><strong>Total Hours</strong></td>
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</table>

*THESE CLASSES FILL BOTH UNIVERSITY CORE AND PROGRAM REQUIREMENTS

IT 447 includes the requirement of 200 hours of approved cybersecurity work experience. This may be done prior or the duration of the class.
### 2022-2023 Program Requirements (77 Credit Hours)

**BS in Cybersecurity (396527)**

**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 systems. They stay current on the latest computing 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 forensic 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.

**REQUIREMENT 1 Complete 7 courses**

<table>
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<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tr>
<td>IT&amp;C 101</td>
<td>Cornerstone: Information Technology &amp; Cybersecurity</td>
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<tr>
<td>IT&amp;C 124</td>
<td>Introduction to Computer Systems</td>
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<td>IT&amp;C 210A</td>
<td>Fundamentals of Web-Based Information Technology</td>
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</tr>
<tr>
<td>IT&amp;C 210B</td>
<td>Fundamentals of Web-Based Information Technology</td>
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</tr>
<tr>
<td>IT&amp;C 231</td>
<td>Ethics, Globalization, &amp; Leadership</td>
<td>3.0</td>
</tr>
<tr>
<td>IT&amp;C 252</td>
<td>Computer Architecture and Organization</td>
<td>3.0</td>
</tr>
<tr>
<td>IT&amp;C 293</td>
<td>Professional Seminar</td>
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<tr>
<td>IT&amp;C 327</td>
<td>Digital Communications</td>
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<td>IT&amp;C 344</td>
<td>Operating Systems</td>
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<tr>
<td>IT&amp;C 347</td>
<td>Computer Networks</td>
<td>3.0</td>
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<tr>
<td>IT&amp;C 350</td>
<td>Database Principles and Applications</td>
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<tr>
<td>IT&amp;C 356</td>
<td>Information Assurance and Security</td>
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<tr>
<td>IT&amp;C 446</td>
<td>Senior Project / Capstone 1</td>
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<tr>
<td>IT&amp;C 447</td>
<td>Senior Projects/Capstone 2</td>
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<tr>
<td>IT&amp;C 567</td>
<td>Cybersecurity and Penetration Testing</td>
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**REQUIREMENT 2 Complete 1 course**

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<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
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<tr>
<td>PSYCH 111</td>
<td>Introduction to Psychological Science</td>
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**REQUIREMENT 3 Complete 15 courses**

**REQUIREMENT 4 Complete 1 course**

<table>
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<tr>
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<th>Course Name</th>
<th>Credits</th>
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<td>Digital Forensics for Organizations</td>
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<tr>
<td>IT&amp;C 567</td>
<td>Digital Forensics</td>
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**REQUIREMENT 5 Complete 1.5 hours from the following course(s)**

**TAKE THE FOLLOWING 3 TIMES:**

<table>
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<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>IT&amp;C 291R</td>
<td>Seminar</td>
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**REQUIREMENT 6 Complete 6.0 hours from the following course(s)**

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC EN 535</td>
<td>Wireless Networking</td>
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<tr>
<td>IT&amp;C 441</td>
<td>Embedded Computer Systems</td>
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<tr>
<td>IT&amp;C 492R</td>
<td>Special Problems in Information Technology &amp; Cybersecurity</td>
<td>3.0v</td>
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<tr>
<td>IT&amp;C 515R</td>
<td>Special Topics in Information Technology &amp; Cybersecurity</td>
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<tr>
<td>IT&amp;C 529</td>
<td>Advanced Networking</td>
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<tr>
<td>IT&amp;C 544</td>
<td>System Administration</td>
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<tr>
<td>IT&amp;C 548</td>
<td>Cyber-Physical Systems</td>
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<tr>
<td>MATH 485</td>
<td>Mathematical Cryptography</td>
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</table>

**REQUIREMENT 7 Students must complete 200 hours of pre-approved cybersecurity-related work after declaring the major and must submit a signed letter from an employer during the IT&C 447 course.**

**REQUIREMENT 8 Complete department packet and exit interview.**

**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, forensic 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.

**DEPARTMENT INFORMATION**

Information Technology & Cybersecurity
265 Crabtree Building
Brigham Young University, Provo, UT 84602
Telephone: 801-422-6300

**ADVISEMENT CENTER INFORMATION**

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265 CTB Building
Brigham Young University, Provo, UT 84602
Telephone: 801-422-1818
sot_advisement@byu.edu