**BS in Information Technology (396526) MAP Sheet**

**Engineering, School of Technology**

For students entering the degree program during the 2021-2022 curricular year.

Information technology (IT), the technical discipline that solves problems using computing resources, will be taught through a combination of strong theoretical course work and practical application to ensure that all three aspects of the technological educational triumvirate (knowing, thinking, doing) are included. IT professionals from this discipline are competent to design computing systems with due consideration of the performance and compatibility aspects of hardware, software, and digital communication and networking. They can visualize, structure, and implement complex technical solutions.

Professionals in this discipline are also proficient in understanding user needs and communicating technical issues to the organizations and people affected by the computer system. They are “curiously engaged” in lifelong learning to keep up with the rapid pace of technological change.

### University Core and Graduation Requirements

#### University Core Requirements:

**Requirements**

<table>
<thead>
<tr>
<th>Courses</th>
<th>#Classes</th>
<th>Hours</th>
<th>Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Religion Cornerstones</strong></td>
<td></td>
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</tr>
<tr>
<td>Teachings and Doctrine of The Book of Mormon</td>
<td>1</td>
<td>2.0</td>
<td>REL A 275</td>
</tr>
<tr>
<td>Jesus Christ and the Everlasting Gospel</td>
<td>1</td>
<td>2.0</td>
<td>REL A 250</td>
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<tr>
<td>Foundations of the Restoration</td>
<td>1</td>
<td>2.0</td>
<td>REL C 225</td>
</tr>
<tr>
<td>The Eternal Family</td>
<td>1</td>
<td>2.0</td>
<td>REL C 200</td>
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<tr>
<td><strong>The Individual and Society</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Heritage</td>
<td>1-2</td>
<td>3-6.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Global and Cultural Awareness</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td><strong>Skills</strong></td>
<td></td>
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<tr>
<td>First Year Writing</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
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<tr>
<td>Advanced Written and Oral Communications</td>
<td>1</td>
<td>3.0</td>
<td>WRTG 316*</td>
</tr>
<tr>
<td>Quantitative Reasoning</td>
<td>1</td>
<td>4.0</td>
<td>MATH 112* or ACT</td>
</tr>
<tr>
<td>Languages of Learning (Math or Language)</td>
<td>1</td>
<td>4.0</td>
<td>MATH 112*</td>
</tr>
<tr>
<td><strong>Arts, Letters, and Sciences</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Civilization 1</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Civilization 2</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Arts</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Letters</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Biological Science</td>
<td>1</td>
<td>3-4.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Physical Science</td>
<td>1</td>
<td>4.0</td>
<td>IT&amp;C 327** recommended</td>
</tr>
<tr>
<td>Social Science</td>
<td>1</td>
<td>3.0</td>
<td>ECON 110* or PSYCH 111*</td>
</tr>
<tr>
<td><strong>Core Enrichment: Electives</strong></td>
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<td></td>
<td></td>
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<tr>
<td>Religion Electives</td>
<td>3-4</td>
<td>6.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Open Electives</td>
<td>3-4</td>
<td>11.0</td>
<td>personal choice</td>
</tr>
</tbody>
</table>

*For UNIVERSITY CORE QUESTIONS AND PROGRAM QUESTIONS SEE SCHOOL OF TECHNOLOGY ADVISOR in 250 SNLB.

**These classes fill both university core and IT tech elective requirements (24-21 hours overlap).** **This class fills both university core and IT tech elective requirements.** However, IT&C 327 is not required for IT students. PHSCS 121 will only satisfy half of the Physical Science requirement and student will need to take an additional physical science from the GE approved list to fully satisfy the Physical Science requirement.

**Graduation Requirements:**

- Minimum residence hours required: 30.0
- Minimum hours needed to graduate: 120.0

### Suggested Sequence of Courses

#### FRESHMAN YEAR

**1st Semester**

- C S 233: 3.0
- IT&C 231: 3.0
- IT&C 210A: 2.0
- IT&C 210B: 2.0
- MATH 111: 4.0
- Religion Cornerstone course: 2.0
- Total Hours: 15.0

**2nd Semester**

- First-year Writing or American Heritage: 3.0
- PHSCS 121: 3.0
- CS 235: 3.0
- IT&C 124: 3.0
- Religion Cornerstone course: 2.0
- TECH 112: 1.0
- Total Hours: 15.0

#### SOPHOMORE YEAR

**3rd Semester**

- IT&C 230A: 2.0
- IT&C 231A: 2.0
- STAT 201: 3.0
- Religion Cornerstone course: 2.0
- Global & Cultural Awareness: 3.0
- Total Hours: 15.0

**4th Semester**

- C S 326: 3.0
- Physical Science: 3.0
- IT&C 252: 3.0
- IT&C 281R: 0.5
- IT&C 293: 0.5
- Religion Cornerstone course: 2.0
- Civilization I: 3.0
- Total Hours: 15.0

#### JUNIOR YEAR

**5th Semester**

- First-year Writing or American Heritage: 3.0
- IT&C 341: 3.0
- CS 342: 3.0
- MATH 112: 4.0
- Religion Cornerstone course: 2.0
- Total Hours: 15.0

**6th Semester**

- First-year Writing or American Heritage: 3.0
- PHSCS 121: 3.0
- CS 335: 3.0
- IT&C 124: 3.0
- Religion Cornerstone course: 2.0
- Total Hours: 15.0

#### SENIOR YEAR

**7th Semester**

- IT&C 346: 3.0
- IT&C Technical Elective*: 3.0
- IT&C Technical Elective*: 3.0
- IT&C 231: 3.0
- Minor course/ Elective: 3.0
- Religion Elective: 2.0
- Total Hours: 15.0

**8th Semester**

- IT&C 447**: 3.0
- IT&C Technical Elective*: 3.0
- IT&C Technical Elective*: 3.0
- Minor / General Elective: 3.0
- Total Hours: 15.0

*Please see the advisor in the School of Technology, SNLB 250, for list of approved tech electives.

**Major Electives**

- ECON 110 or PSYCH 111: 3.0
- Total Hours: 14.0

**General Elective**

- Minor course/ Elective: 3.0
- Religion Elective: 2.0
- Total Hours: 15.0

*Please see the advisor in the School of Technology, SNLB 250, for list of approved tech electives.

**Total Hours: 15.0**

**Note:**

- Students are encouraged to complete an average of 15 credit hours each semester or 30 credit hours each year, which could include spring and/or summer terms. Taking fewer credits substantially increases the cost and the number of semesters to complete the degree.

**Win the $220 or PI Sc 110 combined with the required Econ 110 course can fill the American Heritage requirement.**

*For students entering the degree program during the 2021-2022 curricular year, the following requirements may apply:

- Minimum residence hours required: 30.0
- Minimum hours needed to graduate: 120.0

*Please see the advisor in the School of Technology, SNLB 250, for list of approved tech electives. **IT&C 447 includes the requirement of 200 hours of approved IT&C work experience (any paid experience involving any of the IT&C domains of computing, which include networking, human-computer interaction, databases, web systems, programming, cybersecurity, and computer application domains). See sot.et.byu.edu/advisement/work-experience for more details.
### BS in Information Technology (396526)
#### 2021-2022 Program Requirements (77 Credit Hours)

#### REQUIREMENT 1: Complete 8 courses
- CS 142 - Introduction to Computer Programming 3.0
- CS 235 - Data Structures and Algorithms 3.0
- CS 236 - Discrete Structures 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
- *WRTG 116 - Technical Communication 3.0

#### REQUIREMENT 2: Complete 1 course
- ENGT 231 - (Not currently offered) 3.0

#### REQUIREMENT 3: Complete 1 course
- IT&C 210B - Fundamentals of Web-Based Information Technology 3.0
- IT&C 210A - Fundamentals of Web-Based Information Technology 3.0
- IT&C 124 3.0
- IT&C 101 3.0
- PSYCH 111 - Introduction to Psychological Science 3.0

#### REQUIREMENT 4: Complete 13 courses

#### REQUIREMENT 5: Complete 12.0 hours from the following course(s)
- IT&C 101 - Cornerstone: Information Technology & Cybersecurity 3.0
- IT&C 124 - Introduction to Computer Systems 3.0
- IT&C 201A - Fundamentals of Web-Based Information Technology 2.0
- IT&C 201B - Fundamentals of Web-Based Information Technology 2.0
- IT&C 252 - Computer Architecture and Organization 3.0
- IT&C 255 - User Experience Design 3.0
- IT&C 293 - Professional Seminar 0.5
- IT&C 344 - Operating Systems 3.0
- IT&C 347 - Computer Networks 3.0
- IT&C 350 - Database Principles and Applications 3.0
- IT&C 366 - Information Assurance and Security 3.0
- IT&C 446 - Senior Project / Capstone 1 3.0
- IT&C 447 - Senior Projects/Capstone 2 3.0

#### REQUIREMENT 6: Complete 18.0 hours from the following course(s)
- **Note: IT&C 210B and 252 must be completed with a C or higher grade**
- **Complete 1.5 hours from the following course(s)**
  - Advanced Web Technologies
  - Digital Communications
  - Senior Projects/Capstone 2
  - Senior Project / Capstone 1
  
- **Complete 13 courses**
  - Information Assurance and Security
  - Database Principles and Applications
  - Computer Networks
  - Operating Systems
  - Professional Seminar
  - User Experience Design
  - Information Technology (IT), the technical discipline that solves problems using computing resources, will be taught through a combination of strong theoretical course work and practical application to ensure that all three aspects of the technological educational triumvirate (knowing, thinking, doing) are included. IT professionals from this discipline are competent to design computing systems with due consideration of the performance and compatibility aspects of hardware, software, and digital communication and networking. They can visualize, structure, and implement complex technical solutions.

#### REQUIREMENT 7
Students must complete 200 hours of pre-approved information technology-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.

### THE DISCIPLINE:
Information technology (IT), the technical discipline that solves problems using computing resources, will be taught through a combination of strong theoretical course work and practical application to ensure that all three aspects of the technological educational triumvirate (knowing, thinking, doing) are included. IT professionals from this discipline are competent to design computing systems with due consideration of the performance and compatibility aspects of hardware, software, and digital communication and networking. They can visualize, structure, and implement complex technical solutions.

Professionals in this discipline are also proficient in understanding user needs and communicating technical issues to the organizations and people affected by the computer system. They are “anxiously engaged” in lifelong learning to understand and wisely use new technologies as they become available. Broadly educated at the university level, these professionals have acquired balance in their lives and depth of understanding in technology and its relevance in the broader world context.

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 performance standards.