

# BS in Information Technology (396526) MAP Sheet

## Engineering, School of Technology



For students entering the degree program during the 2019-2020 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 “anxiously engaged” in lifelong learning to

University Core and Graduation Requirements				Suggested Sequence of Courses			
<b>University Core Requirements:</b>				<b>FRESHMAN YEAR</b>			
<b>Requirements</b>	<b>#Classes</b>	<b>Hours</b>	<b>Classes</b>	<u>1st Semester</u>		<u>JUNIOR YEAR</u>	
<b>Religion Cornerstones</b>				First-year Writing or American Heritage		<u>5th Semester</u>	
Teachings and Doctrine of The Book of Mormon	1	2.0	REL A 275	IT&C 101	3.0	IT&C 327	4.0
Jesus Christ and the Everlasting Gospel	1	2.0	REL A 250	C S 142	3.0	IT&C 344	3.0
Foundations of the Restoration	1	2.0	REL C 225	MATH 112	4.0	IT&C 347	3.0
The Eternal Family	1	2.0	REL C 200	Religion Cornerstone course	2.0	IT&C 291R	0.5
<b>The Individual and Society</b>				<b>Total Hours</b>		ENGL 316	
American Heritage	1-2	3-6.0	from approved list	<b>15.0</b>		Religion elective	
Global and Cultural Awareness	1	3.0	from approved list	<u>2nd Semester</u>		<b>Total Hours</b>	
<b>Skills</b>				First-year Writing or American Heritage		<b>15.5</b>	
First Year Writing	1	3.0	from approved list	PHSCS 121	3.0	<u>6th Semester</u>	
Advanced Written and Oral Communications	1	3.0	ENGL 316*	C S 235	3.0	IT&C 350	
Quantitative Reasoning	1	4.0	MATH 112* or ACT	IT&C 124	3.0	IT&C 366	
Languages of Learning (Math or Language)	1	4.0	MATH 112*	Religion Cornerstone course	2.0	ECON 110 or PSYCH 111	
<b>Arts, Letters, and Sciences</b>				TECH 112		Civilization I	
Civilization 1	1	3.0	from approved list	<b>Total Hours</b>		Religion Elective	
Civilization 2	1	3.0	from approved list	<b>15.0</b>		<b>Total Hours</b>	
Arts	1	3.0	from approved list	<b>SOPHOMORE YEAR</b>		<u>SENIOR YEAR</u>	
Letters	1	3.0	from approved list	<u>3rd Semester</u>		<u>7th Semester</u>	
Biological Science	1	3-4.0	from approved list	IT&C 210A	2.0	IT&C 446	
Physical Science	1	4.0	IT 327*	IT&C 210B	2.0	IT&C Technical Elective	
Social Science	1	3.0	ECON 110* or PSYCH 111*	IT&C 291R	0.5	IT&C Technical Elective	
<b>Core Enrichment: Electives</b>				STAT 201		IT&C 231	
Religion Electives	3-4	6.0	from approved list	Religion Cornerstone course		Minor/ General Elective	
Open Electives	3-4	11.0	personal choice	Global & Cultural Awareness		Religion Elective	
FOR UNIVERSITY CORE QUESTIONS CONTACT THE ADVISEMENT CENTER — FOR PROGRAM QUESTIONS SEE ADVISOR IN 250 SNLB				<b>Total Hours</b>		<b>Total Hours</b>	
*THESE CLASSES FILL BOTH UNIVERSITY CORE AND PROGRAM REQUIREMENTS (14–21 hours overlap)				<b>15.5</b>		<b>15.0</b>	
<b>Graduation Requirements:</b>				<u>4th Semester</u>		<u>8th Semester</u>	
Minimum residence hours required		30.0		IT&C 447	3.0	IT&C 447	
Minimum hours needed to graduate		120.0		C S 236	3.0	IT* C Technical Elective	
				Biological Science		Arts or Letters	
				IT&C 252		Civilization II & Arts or Letters	
				IT&C 291R		Minor / General Elective	
				IT&C 293		<b>Total Hours</b>	
				Religion Cornerstone course		<b>15.0</b>	
				Minor/ General Elective		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 <a href="http://sot.et.byu.edu/advisement/work-experience">sot.et.byu.edu/advisement/work-experience</a> for more details.	
				<b>Total Hours</b>			
				<b>15.0</b>			
				*Hist 220 or Pl Sc 110 combined with the required Econ 110 course can fill the American Heritage requirement.			
				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 graduate.			
				Note: IT 447 includes the requirement of 200 hours of approved IT work experience (any paid experience involving any of the IT domains of computing, which include networking, human-computer interaction, databases, web systems, programming, cybersecurity, and computer application domains). See <a href="http://sot.et.byu.edu/advisement/work-experience">sot.et.byu.edu/advisement/work-experience</a> for more details.			

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### 2019-2020 Program Requirements (78 Credit Hours)

<p><b>REQUIREMENT 1</b> Complete 8 courses</p> <p>C S 142 - Introduction to Computer Programming 3.0</p> <p>C S 235 - Data Structures and Algorithms 3.0</p> <p>C S 236 - Discrete Structures 3.0</p> <p>*ENGL 316 - Technical Communication 3.0</p> <p>*MATH 112 - Calculus 1 4.0</p> <p>PHSCS 121 - Introduction to Newtonian Mechanics 3.0</p> <p>STAT 201 - Statistics for Engineers and Scientists 3.0</p> <p>TECH 112 - Exploration in Innovation Design Techniques 1.0</p> <p><b>REQUIREMENT 2</b> Complete 1 course</p> <p>ENG T 231 - Foundations of Global Leadership 3.0</p> <p>IT&amp;C 231 - Ethics, Globalization, &amp; Leadership 3.0</p> <p><b>REQUIREMENT 3</b> Complete 1 course</p> <p>ECON 110 - Economic Principles and Problems 3.0</p> <p>PSYCH 111 - Introduction to Psychological Science 3.0</p> <p><b>REQUIREMENT 4</b> Complete 14 courses</p> <p><b>NOTE: IT&amp;C 210B AND 252 MUST BE COMPLETED WITH A C OR HIGHER GRADE PRIOR TO ENROLLMENT IN 300-LEVEL IT COURSES.</b></p> <p>IT&amp;C 101 - Cornerstone: Information Technology &amp; Cybersecurity 3.0</p> <p>IT&amp;C 124 - Introduction to Computer Systems 3.0</p> <p>IT&amp;C 210A - Fundamentals of Web-Based Information Technology 2.0</p> <p>IT&amp;C 210B - Fundamentals of Web-Based Information Technology 2.0</p> <p>IT&amp;C 252 - Computer Architecture and Organization 3.0</p> <p>IT&amp;C 255 - Human-Computer Interaction 3.0</p> <p>IT&amp;C 293 - Professional Seminar 0.5</p> <p>IT&amp;C 327 - Digital Communications 4.0</p> <p>IT&amp;C 344 - Operating Systems 3.0</p> <p>IT&amp;C 347 - Computer Networks 3.0</p> <p>IT&amp;C 350 - Database Principles and Applications 3.0</p> <p>IT&amp;C 366 - Information Assurance and Security 3.0</p> <p>IT&amp;C 446 - Senior Project / Capstone 1 3.0</p> <p>IT&amp;C 447 - Senior Projects/Capstone 2 3.0</p> <p><b>REQUIREMENT 5</b> Complete 1.5 hours from the following course(s)</p> <p><b>TAKE THE FOLLOWING 3 TIMES:</b></p> <p>IT&amp;C 291R - Seminar 0.5</p> <p><i>You may take up to 1 credit hour.</i></p> <p><b>REQUIREMENT 6</b> Complete 9.0 hours from the following course(s)</p> <p><b>COURSES OUTSIDE OF THOSE LISTED HERE MUST BE PRE-APPROVED BY THE PROGRAM.</b></p> <p>IT&amp;C 410 - Advanced Web Technologies 3.0</p>	<p>IT&amp;C 441 - Embedded Computer Systems 3.0</p> <p>IT&amp;C 450 - Database Administration 3.0</p> <p>IT&amp;C 492R - Special Problems in Information Technology &amp; Cybersecurity 3.0v</p> <p>IT&amp;C 515R - Special Topics in Information Technology &amp; Cybersecurity 3.0v</p> <p>IT&amp;C 529 - Advanced Networking 3.0</p> <p>IT&amp;C 544 - System Administration 3.0</p> <p>IT&amp;C 548 - Cyber-Physical Systems 3.0</p> <p>IT&amp;C 555 - Advanced Human-Computer Interaction 3.0</p> <p>IT&amp;C 566 - Digital Forensics 3.0</p> <p>IT&amp;C 567 - Cybersecurity and Penetration Testing 3.0</p> <p><b>REQUIREMENT 7</b></p> <p>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&amp;C 447 course.</p> <p><b>REQUIREMENT 8</b></p> <p>Complete department packet and exit interview.</p> <p><b>THE DISCIPLINE:</b></p> <p>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.</p>	<p><b>CAREER OPPORTUNITIES:</b></p> <p>Career opportunities are plentiful and rewarding in both large and small companies in technical fields. Graduates will find careers in computer networking, testing, embedded intelligence, digital communications, computer system development, and integration.</p> <p><b>MAP DISCLAIMER</b></p> <p>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.</p> <p><b>DEPARTMENT INFORMATION</b></p> <p>Information Technology &amp; Cybersecurity          School of Technology          265 Crabtree Building          Brigham Young University Provo, UT 84602          Telephone: 801-422-6300</p> <p><b>ADVISEMENT CENTER INFORMATION</b></p> <p>Rachel Terry, Academic Advisor, School of Technology          250 Snell Building          Brigham Young University Provo, UT 84602          Telephone: 801-422-1818          sot_advisement@byu.edu</p>
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