

BS in Information Technology (396526) MAP Sheet

Engineering, School of Technology



For students entering the degree program during the 2020-2021 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				
University Core Requirements:								
Requirements	#Classes	Hours	Classes					
Religion Cornerstones				FRESHMAN YEAR				
Teachings and Doctrine of The Book of Mormon	1	2.0	REL A 275	<u>1st Semester</u>		JUNIOR YEAR		
Jesus Christ and the Everlasting Gospel	1	2.0	REL A 250	First-year Writing or American Heritage	3.0	<u>5th Semester</u>	IT&C 327	4.0
Foundations of the Restoration	1	2.0	REL C 225	IT&C 101	3.0	IT&C 344	3.0	
The Eternal Family	1	2.0	REL C 200	C S 142	3.0	IT&C 347	3.0	
The Individual and Society				MATH 112	4.0	IT&C 291R	0.5	
American Heritage	1-2	3-6.0	from approved list	Religion Cornerstone course	2.0	WRTG 316	3.0	
Global and Cultural Awareness	1	3.0	from approved list	Total Hours	15.0	Religion elective	2.0	
Skills				<u>2nd Semester</u>		Total Hours		15.5
First Year Writing	1	3.0	from approved list	First-year Writing or American Heritage	3.0	<u>6th Semester</u>		
Advanced Written and Oral Communications	1	3.0	WRTG 316*	PHSCS 121	3.0	IT&C 350	3.0	
Quantitative Reasoning	1	4.0	MATH 112* or ACT	CS 235	3.0	IT&C 366	3.0	
Languages of Learning (Math or Language)	1	4.0	MATH 112*	IT&C 124	3.0	ECON 110 or PSYCH 111	3.0	
Arts, Letters, and Sciences				Religion Cornerstone course	2.0	Civilization I	3.0	
Civilization 1	1	3.0	from approved list	TECH 112	1.0	Religion Elective	2.0	
Civilization 2	1	3.0	from approved list	Total Hours	15.0	Total Hours	14.0	
Arts	1	3.0	from approved list	SOPHOMORE YEAR				
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	3.0	
Physical Science	1	4.0	IT 327*	IT&C 210B	2.0	IT&C Technical Elective	3.0	
Social Science	1	3.0	ECON 110* or PSYCH 111*	IT&C 291R	0.5	IT&C Technical Elective	3.0	
Core Enrichment: Electives				IT&C 255	3.0	IT&C 231	3.0	
Religion Electives	3-4	6.0	from approved list	STAT 201	3.0	Minor/ General Elective	1.0	
Open Electives	3-4	11.0	personal choice	Religion Cornerstone course	2.0	Religion Elective	2.0	
				Global & Cultural Awareness	3.0	Total Hours	15.0	
				<u>4th Semester</u>		<u>8th Semester</u>		
				IT&C 291R	0.5	IT&C 447	3.0	
				IT&C 293	0.5	IT&C Technical Elective	3.0	
				Religion Cornerstone course	2.0	Arts or Letters	3.0	
				Minor/ General Elective	3.0	Civilization II & Arts or Letters	3.0	
				Total Hours	15.0	Minor / General Elective	3.0	
				Total Hours				15.0
				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.				
Graduation Requirements:				*Hist 220 or Pl Sc 110 combined with the required Econ 110 course can fill the American Heritage requirement.				
Minimum residence hours required		30.0		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 graduate.				
Minimum hours needed to graduate		120.0		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 sot.et.byu.edu/advisement/work-experience for more details.				
FOR UNIVERSITY CORE QUESTIONS CONTACT THE ADVISEMENT CENTER — FOR PROGRAM QUESTIONS SEE ADVISOR IN 230 SNLB								
*THESE CLASSES FILL BOTH UNIVERSITY CORE AND PROGRAM REQUIREMENTS (14–21 hours overlap)								

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2020-2021 Program Requirements (77 Credit Hours)

<p>REQUIREMENT 1 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>*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>*WRTG 316 - Technical Communication 3.0</p> <p>REQUIREMENT 2 Complete 1 course</p> <p>ENG T 231 - (Not currently offered)</p> <p>IT&C 231 - Ethics, Globalization, & Leadership 3.0</p> <p>REQUIREMENT 3 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>REQUIREMENT 4 Complete 13 courses</p> <p>NOTE: IT&C 210B AND 252 MUST BE COMPLETED WITH A C OR HIGHER GRADE PRIOR TO ENROLLMENT IN 300-LEVEL IT COURSES.</p> <p>IT&C 101 - Cornerstone: Information Technology & Cybersecurity 3.0</p> <p>IT&C 124 - Introduction to Computer Systems 3.0</p> <p>IT&C 210A - Fundamentals of Web-Based Information Technology 2.0</p> <p>IT&C 210B - Fundamentals of Web-Based Information Technology 2.0</p> <p>IT&C 252 - Computer Architecture and Organization 3.0</p> <p>IT&C 255 - User Experience Design 3.0</p> <p>IT&C 293 - Professional Seminar 0.5</p> <p>IT&C 344 - Operating Systems 3.0</p> <p>IT&C 347 - Computer Networks 3.0</p> <p>IT&C 350 - Database Principles and Applications 3.0</p> <p>IT&C 366 - Information Assurance and Security 3.0</p> <p>IT&C 446 - Senior Project / Capstone 1 3.0</p> <p>IT&C 447 - Senior Projects/Capstone 2 3.0</p> <p>REQUIREMENT 5 Complete 1.5 hours from the following course(s)</p> <p>TAKE THE FOLLOWING 3 TIMES:</p> <p>IT&C 291R - Seminar 0.5</p> <p><i>You may take up to 1 credit hour.</i></p> <p>REQUIREMENT 6 Complete 12.0 hours from the following course(s)</p> <p>COURSES OUTSIDE OF THOSE LISTED HERE MUST BE PRE-APPROVED BY THE PROGRAM.</p> <p>IT&C 327 - Digital Communications 4.0</p> <p>IT&C 410 - Advanced Web Technologies 3.0</p>	<p>IT&C 441 - Embedded Computer Systems 3.0</p> <p>IT&C 450 - Database Administration 3.0</p> <p>IT&C 492R - Special Problems in Information Technology & Cybersecurity 3.0v</p> <p>IT&C 515R - Special Topics in Information Technology & Cybersecurity 3.0v</p> <p>IT&C 529 - Advanced Networking 3.0</p> <p>IT&C 544 - System Administration 3.0</p> <p>IT&C 548 - Cyber-Physical Systems 3.0</p> <p>IT&C 555 - Advanced Human-Computer Interaction 3.0</p> <p>IT&C 566 - Digital Forensics 3.0</p> <p>IT&C 567 - Cybersecurity and Penetration Testing 3.0</p> <p>REQUIREMENT 7</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&C 447 course.</p> <p>REQUIREMENT 8</p> <p>Complete department packet and exit interview.</p> <p>THE DISCIPLINE:</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.</p> <p>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>CAREER OPPORTUNITIES:</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>MAP DISCLAIMER</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>DEPARTMENT INFORMATION</p> <p>Information Technology & Cybersecurity School of Technology 265 Crabtree Building Brigham Young University Provo, UT 84602 Telephone: 801-422-6300</p> <p>ADVISEMENT CENTER INFORMATION</p> <p>Samuel Cardenas, Academic Advisor, School of Technology 230 Snell Building Brigham Young University Provo, UT 84602 Telephone: 801-422-2021 sot_advisement@byu.edu</p>
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