## BACHELOR OF SCIENCE, MAJOR IN COMPUTING SCIENCE (IA): 4+1 MS COMPUTING AND DATA SCIENCE

Additional information: Reference the Program Landing Page (https://www.shsu.edu/programs/bachelor-of-science-in-computing-science/) for additional information, such as cost, delivery format, contact information, or to schedule a visit.

Bachero, Major in Computing Science (Information Assurance): 411 MS Computing and Data Science           Component Area II (Communications)         6           Component Area II (Communications)         8           Component Area III (Life and Physical Science)         8           Component Area IV (Language, Philosophy, and Culture)         3           Component Area VI (LiS. History)         6           Component Area VI (IV.S. History)         6           Component Area VII (Political Science) Government)         6           Component Area VII (Political Science)         6           Component Area VII (Coscil and Febraloviral Sciences)         3           Component Area VII (Coscil and Febraloviral Sciences)         4           Component Area VII (Coscil and Febraloviral Sciences)         4           Component Area VII (Coscil and Febraloviral Sciences)         4           Amarth 1430         Calculus I 12         4           AMATH 1439         Discrete Mathematics         3           All All Avanced         1         4           Science (in addition to the Component Area III)         4           March 1439         Programming Fundamentals II         4           CoSci 1437         Programming Fundamentals II         4           CoSci 2439         Programming Fundamentals II <th>Code</th> <th>Title</th> <th>Hours</th>	Code	Title	Hours
Component Area II (Communications)	Bachelor of Science, Major in Comp	uting Science (Information Assurance): 4+1 MS Computing and Data Science	
Component Area II (Life and Physical Science)         3           Component Area IV (Language, Philosophy, and Culture)         3           Component Area V (Creative Arts)         3           Component Area V (I U.S. History)         6           Component Area VIII (Soicial and Behavioral Sciences)         3           Component Area VIII (Political Science) (Government)         6           Component Area VIII (Soicial and Behavioral Sciences)         3           Component Area IV (Component Area Option)         4           Degree Specific Requirements           MATH 1420         Calculus 1 <sup>1,2</sup> 4           MATH 2955         Discrete Mathematics         3           MATH 2956         Discrete Mathematics         3           Science (In addition to the Component Area III)         8           Macion Foundation         8           COSC 1436         Programming Fundamentals I         4           COSC 1437         Programming Fundamentals I         4           COSC 2392         Computer Organization & Machine Language         3           COSC 3318         Data Satructures and Algorithms         3           COSC 3439         Software Engineering         3           COSC 4349         Professionalism and Ethics         3	Core Curriculum		
Component Area III (Life and Physical Science)         8           Component Area V (Creative Arts)         3           Component Area V (Creative Arts)         6           Component Area V (IV.S. History)         6           Component Area V (IV.S. History)         6           Component Area V III (Social and Behavioral Sciences)         3           Component Area IX (Component Area Option)         4           Degree Specific Requirements         4           MATH 1420         Calculus I         4           MATH 1430         Calculus I         3           MATH 2936         Discrete Mathematics         3           Science (In addition to the Component Area III)         8           Science (In addition to the Component Area III)         8           Major. Foundation         8           COSC 1436         Programming Fundamentals I         4           COSC 1437         Programming Fundamentals II         4           COSC 2329         Computer Organization & Machine Language         3           COSC 3318         Data Structures and Algorithm         3           COSC 3439         Professionalism and Ethics         3           COSC 2449         Professionalism and Ethics         1           COSC 2326         Computer Ar	Component Area I (Communication	s)	6
Component Area N (Language, Philosophy, and Culture)         3           Component Area V (Lack History)         6           Component Area V (LuS. History)         6           Component Area V (LuS. History)         6           Component Area V (II (Political Science/Government)         3           Component Area V (II (Political Science/Government)         4           Component Area V (Component Area Option)         4           Degree Specific Requirements         4           MATH 1430         Calculus II         4           MATH 12395         Discrete Mathematics         3           Atla (Advanced)         3         3           Science (In addition to the Component Area III)         3           Major. Foundation         4           COSC 1435         Programming Fundamentals I         4           COSC 1436         Programming Fundamentals II         4           COSC 2329         Computer Organization & Machine Language         3           COSC 3318         Data Sase Management Systems         3           COSC 34319         Software Engineering         3           COSC 43419         Professionalism and Ethics         3           Major. Concentration         3           COSC 2347         Special Topics/Programmin	Component Area II (Mathematics) 1		3
Component Area VI (U.S. History)         6           Component Area VII (I.S. History)         6           Component Area VII (I.S. History)         3           Component Area VII (I.Social and Behavioral Sciences)         3           Component Area VII (Controller)         4           Pogree Specific Requirements         4           MATH 1420         Calculus I         4           MATH 1430         Calculus II         4           MATH 14395         Discrete Mathematics         3           Statistical Methods in Practice         3           Science (In addition to the Component Area III)         8           Major: Foundation         4           COSC 1437         Programming Fundamentals I         4           COSC 1437         Programming Fundamentals II         4           COSC 2329         Computer Organization & Machine Language         3           COSC 3318         Data Base Management Systems         3           COSC 3319         Data Structures and Algorithms         3           COSC 4349         Professionalism and Ethics         3           Major: Concentration         3           COSC 2327         Computer Architecture         3           COSC 2337         Special Topics/Programming	Component Area III (Life and Physic	eal Science)	8
Component Area VI (U.S. History)         6           Component Area VII (Bocial and Behavioral Sciences)         3           Component Area VII (Bocial and Behavioral Sciences)         4           Component Area IX (Component Area Option)         4           Degree Specific Requirements           MATH 1420         Calculus I         4           MATH 1430         Calculus II         4           MATH 2395         Discrete Mathematics         3           STAT 3379         Statistical Methods in Practice         3           Science (In addition to the Component Area III)         8           Major Foundation         4           COSC 1436         Programming Fundamentals I         4           COSC 1437         Programming Fundamentals II         4           COSC 2437         Programming Fundamentals II         4           COSC 23318         Data Base Management Systems         3           COSC 3318         Data Base Management Systems         3           COSC 4319         Software Engineering         3           COSC 4319         Software Engineering         3           COSC 3327         Computer Architecture         3           COSC 2347         Special Topics/Programming         3      <	Component Area IV (Language, Phil	osophy, and Culture)	3
Component Area VIII (Political Science/Government)         6           Component Area VIII (Social and Behavioral Sciences)         3           Component Area IV (Component Area Deption)         4           Degree Specific Requirements         4           MATH 1420         Calculus II         4           MATH 1439         Calculus II         4           MATH 2395         Discrete Mathematics         3           Math (Advanced)         3           Science (in addition to the Component Area III)         8           Major. Foundation         4           COSC 1436         Programming Fundamentals I         4           COSC 1437         Programming Fundamentals II         4           COSC 2329         Computer Organization & Machine Language         3           COSC 3318         Data Base Management Systems         3           COSC 3319         Data Structures and Algorithms         3           COSC 4318         Advanced Language Concepts         3           COSC 3439         Professionalism and Ethics         3           Major. Concentration         3           COSC 2347         Special Topics/Programming         3           COSC 2316         Digital Forensics & Information Assurance Fundamentals I         3	Component Area V (Creative Arts)		3
Component Area IX (Component Area Option)         4           Popere Specific Requirements         4           MATH 1420         Calculus I 1-2         4           MATH 1430         Calculus II         4           MATH 14395         Discrete Mathematics         3           Math (Advanced)         3           STAT 3379         Statistical Methods in Practice         3           Science (In addition to the Component Area III)         4           Major. Foundation         4           COSC 1436         Programming Fundamentals I         4           COSC 1437         Programming Fundamentals II         4           COSC 2329         Computer Organization & Machine Language         3           COSC 3318         Data Base Management Systems         3           COSC 3439         Data Structures and Algorithms         3           COSC 4318         Advanced Language Concepts         3           COSC 4349         Professionalism and Ethics         3           Major. Concentration         3           COSC 2327         Special Topics/Programming         3           COSC 3439         Special Topics/Programming         3           COSC 3136         Digital Forensics & Information Assurance Fundamentals I         3	Component Area VI (U.S. History)		6
Component Area IX (Component Area Option)         4           Degree Specific Requirements           AMTH 1420         Calculus II         4           MATH 1430         Calculus II         4           MATH 1430         Calculus II         4           MATH 1430         Discrete Mathematics         3           MATH 1420         Calculus II         4           MATH 1420         Calculus II         4           MATH 1430         Calculus II         3           MATH 1430         Calculus II         4           Math 1430         Calculus II         4           Major Froundation         4           Cosc 1437         Programming Fundamentals II         4           Cosc 4349         Data Structures and Algorithms         3           Cosc 4349         Advanced Language Concepts         3           Cosc 2347         Special Tojics/Programming         3	Component Area VII (Political Scien	ce/Government)	6
Degree Specific Requirements           MATH 1420         Calculus I         4           MATH 1430         Calculus II         3           MATH 14395         Discrete Mathematics         3           Math (Advanced)         3           STAT 3379         Statistical Methods in Practice         3           Science (in addition to the Component Area III)         4           Major. Foundation           COSC 1436         Programming Fundamentals I         4           COSC 1437         Programming Fundamentals II         4           COSC 1437         Programming Fundamentals II         4           COSC 2329         Computer Organization & Machine Language         3           COSC 3318         Data Base Management Systems         3           COSC 3319         Data Structures and Algorithms         3           COSC 4349         Professionalism and Ethics         3           COSC 4349         Professionalism and Ethics         3           Major. Concentration           COSC 2327         Computer Architecture         3           COSC 2347         Special Topics/Programming         3           COSC 2316         Digital Forensics & Information Assurance Fundamentals II         3	Component Area VIII (Social and Be	havioral Sciences)	3
MATH 1420         Calculus II 12         4           MATH 1430         Calculus II         4           MATH 2395         Discrete Mathematics         3           Math (Advanced)         3           STAT 3379         Statistical Methods in Practice         3           Science (In addition to the Component Area III)         8           Major Foundation         V           COSC 1436         Programming Fundamentals II         4           COSC 1437         Programming Fundamentals II         4           COSC 1437         Programming Fundamentals II         4           COSC 2331         Data Base Management Systems         3           COSC 3318         Data Structures and Algorithms         3           COSC 4319         Advanced Language Concepts         3           COSC 4319         Software Engineering         3           COSC 4349         Professionalism and Ethics         3           Major: Concentration         3           COSC 2347         Special Topics/Programming         3           COSC 2437         Special Topics/Programming         3           COSC 2419         Seminar in Computer Science         1           DFSC 1316         Digital Forensics & Information Assurance Fundamentals II	Component Area IX (Component Area	ea Option)	4
MATH 1430         Calculus II         4           MATH 2395         Discrete Mathematics         3           Math (Advanced)         3           STAT 3379         Statistical Methods in Practice         3           Science (In addition to the Component Area III)         8           Major: Foundation           Variation Substitution of the Component Area III)         4           COSC 1436         Programming Fundamentals I         4           COSC 1437         Programming Fundamentals II         4           COSC 2329         Computer Organization & Machine Language         3           COSC 3318         Data Base Management Systems         3           COSC 3319         Data Busculturus and Algorithms         3           COSC 4318         Advanced Language Concepts         3           COSC 4319         Software Engineering         3           COSC 4349         Professionalism and Ethics         3           Major Concentration         3           COSC 2347         Special Topics/Programming         3           COSC 4149         Seminar in Computer Architecture         3           DFSC 3316         Digital Forensics & Information Assurance Fundamentals II         3           DFSC 3336	Degree Specific Requirements		
MATH 2395         Discrete Mathematics         3           Math (Advanced)         3           STAT 3379         Statistical Methods in Practice         3           Science (In addition to the Component Area III)         8           Major: Foundation           COSC 1436         Programming Fundamentals I         4           COSC 1437         Programming Fundamentals II         4           COSC 2329         Computer Organization & Machine Language         3           COSC 3318         Data Base Management Systems         3           COSC 3319         Data Structures and Algorithms         3           COSC 3419         Advanced Language Concepts         3           COSC 4319         Software Engineering         3           COSC 4349         Professionalism and Ethics         3           Major: Concentration         3           COSC 2347         Special Topics/Programming         3           COSC 2327         Computer Architecture         3           COSC 2327         Special Topics/Programming         3           COSC 2316         Digital Forensics & Information Assurance Fundamentals II         3           DFSC 3316         Digital Forensics & Information Assurance Fundamentals II         3 <td>MATH 1420</td> <td>Calculus I <sup>1,2</sup></td> <td>4</td>	MATH 1420	Calculus I <sup>1,2</sup>	4
Math (Advanced)         Statistical Methods in Practice         3           STAT 3379         Statistical Methods in Practice         3           Science (In addition to the Component Area III)         8           Major Foundation           COSC 1436         Programming Fundamentals II         4           COSC 1437         Programming Fundamentals III         4           COSC 2329         Computer Organization & Machine Language         3           COSC 3318         Data Base Management Systems         3           COSC 3319         Data Structures and Algorithms         3           COSC 4318         Advanced Language Concepts         3           COSC 4319         Software Engineering         3           COSC 4319         Professionalism and Ethics         3           Major Concentration           COSC 2347         Special Topics/Programming         3           COSC 2347         Special Topics/Programming         3           COSC 4149         Seminar in Computer Science         1           DFSC 2316         Digital Forensics & Information Assurance Fundamentals I         3           DFSC 2316         Digital Forensics & Information Assurance Fundamentals II         3           DFSC 3317         Inform	MATH 1430	Calculus II	4
STAT 3379         Statistical Methods in Practice         3           Science (In addition to the Component In Programment III)         A Base Marger ment Systems         A Cosc 1437         Programming Fundamentals II         4           COSC 1437         Programming Fundamentals III         4           COSC 2329         Computer Organization & Machine Language         3           COSC 3318         Data Base Management Systems         3           COSC 3319         Data Structures and Algorithms         3           COSC 4318         Advanced Language Concepts         3           COSC 4319         Software Engineering         3           COSC 4349         Professionalism and Ethics         3           COSC 4347         Special Topics/Programming         3           COSC 3327         Computer Architecture         3           COSC 4149         Seminar in Computer Science         1           DFSC 1316         Digital Forensics & Information Assurance Fundamentals I         3           DFSC 4317         Information Security         3           DFSC Advanced Electives         4           El	MATH 2395	Discrete Mathematics	3
STAT 3379         Statistical Methods in Practice         3           Science (In addition to the Component In Programment III)         A Base Marger ment Systems         A Cosc 1437         Programming Fundamentals II         4           COSC 1437         Programming Fundamentals III         4           COSC 2329         Computer Organization & Machine Language         3           COSC 3318         Data Base Management Systems         3           COSC 3319         Data Structures and Algorithms         3           COSC 4318         Advanced Language Concepts         3           COSC 4319         Software Engineering         3           COSC 4349         Professionalism and Ethics         3           COSC 4347         Special Topics/Programming         3           COSC 3327         Computer Architecture         3           COSC 4149         Seminar in Computer Science         1           DFSC 1316         Digital Forensics & Information Assurance Fundamentals I         3           DFSC 4317         Information Security         3           DFSC Advanced Electives         4           El	Math (Advanced)		3
Major. Foundation           COSC 1436         Programming Fundamentals II         4           COSC 1437         Programming Fundamentals III         4           COSC 2329         Computer Organization & Machine Language         3           COSC 3318         Data Base Management Systems         3           COSC 3319         Data Structures and Algorithms         3           COSC 4318         Advanced Language Concepts         3           COSC 4319         Software Engineering         3           COSC 4349         Professionalism and Ethics         3           Major. Concentration         3           COSC 2347         Special Topics/Programming         3           COSC 2347         Special Topics/Programming         3           COSC 4149         Seminar in Computer Science         1           COSC 2316         Digital Forensics & Information Assurance Fundamentals I         3           DFSC 1316         Digital Forensics & Information Assurance Fundamentals II         3           DFSC 4317         Information Security         3           DFSC 4317         Information Security         3           DFSC 4317         Information Security         3           DFSC Advanced Electives         4           Advanced	STAT 3379	Statistical Methods in Practice	
COSC 1436         Programming Fundamentals II         4           COSC 1437         Programming Fundamentals II         4           COSC 2329         Computer Organization & Machine Language         3           COSC 3318         Data Base Management Systems         3           COSC 3319         Data Structures and Algorithms         3           COSC 4318         Advanced Language Concepts         3           COSC 4319         Software Engineering         3           COSC 4349         Professionalism and Ethics         3           Major: Concentration         3           COSC 2347         Special Topics/Programming         3           COSC 2347         Special Topics/Programming         3           COSC 2349         Seminar in Computer Science         1           DFSC 1316         Digital Forensics & Information Assurance Fundamentals I         3           DFSC 2316         Digital Forensics & Information Assurance Fundamentals II         3           DFSC 2316         Digital Forensics & Information Assurance Fundamentals II         3           DFSC 2317         Information Security         3           DFSC Advanced Electives         3           4HAwareed General         4           Hunster of Science in Computing and Data Science Assuranc	Science (In addition to the Component	ent Area III)	8
COSC 1437         Programming Fundamentals II         4           COSC 2329         Computer Organization & Machine Language         3           COSC 3318         Data Base Management Systems         3           COSC 3319         Data Structures and Algorithms         3           COSC 4318         Advanced Language Concepts         3           COSC 4319         Software Engineering         3           COSC 4349         Professionalism and Ethics         3           Major: Concentration           COSC 2347         Special Topics/Programming         3           COSC 2347         Special Topics/Programming         3           COSC 3327         Computer Architecture         3           COSC 4149         Seminar in Computer Science         1           DFSC 1316         Digital Forensics & Information Assurance Fundamentals II         3           DFSC 2316         Digital Forensics & Information Assurance Fundamentals II         3           DFSC 4317         Information Security         3           DFSC 4317         Information Security         3           DFSC 4317         Information Security         3           Electives: Advanced General         4           Advanced General Electives         4	Major: Foundation		
COSC 2329         Computer Organization & Machine Language         3           COSC 3318         Data Base Management Systems         3           COSC 3319         Data Structures and Algorithms         3           COSC 4318         Advanced Language Concepts         3           COSC 4319         Software Engineering         3           COSC 4349         Professionalism and Ethics         3           Major: Concentration           COSC 2347         Special Topics/Programming         3           COSC 3327         Computer Architecture         3           COSC 4149         Seminar in Computer Science         1           DFSC 1316         Digital Forensics & Information Assurance Fundamentals I         3           DFSC 2316         Digital Forensics & Information Assurance Fundamentals II         3           DFSC 3316         Cryptography and Network Security         3           DFSC 4317         Information Security         3           Electives: Advanced Electives           4+1 Master of Science in Computing and Data Science <sup>3</sup> COSC 5318         Database Systems         3           COSC 5319         Algorithm Design and Analysis         3           COSC 5300         Computer Science Internship	COSC 1436	Programming Fundamentals I	4
COSC 3318         Data Base Management Systems         3           COSC 3319         Data Structures and Algorithms         3           COSC 4318         Advanced Language Concepts         3           COSC 4319         Software Engineering         3           COSC 4349         Professionalism and Ethics         3           Major: Concentration           COSC 2347         Special Topics/Programming         3           COSC 3327         Computer Architecture         3           COSC 4149         Seminar in Computer Science         1           DFSC 1316         Digital Forensics & Information Assurance Fundamentals I         3           DFSC 2316         Digital Forensics & Information Assurance Fundamentals II         3           DFSC 3316         Cryptography and Network Security         3           DFSC 4317         Information Security         3           DFSC Advanced Electives           44-1 Master of Science in Computing and Data Science 3           COSC 5318         Database Systems         3           COSC 5319         Algorithm Design and Analysis         3           COSC 5340         Special Topics (taken twice)         6           or COSC 5300         Computer Science Internship <t< td=""><td>COSC 1437</td><td>Programming Fundamentals II</td><td>4</td></t<>	COSC 1437	Programming Fundamentals II	4
COSC 3318         Data Base Management Systems         3           COSC 3319         Data Structures and Algorithms         3           COSC 4318         Advanced Language Concepts         3           COSC 4319         Software Engineering         3           COSC 4349         Professionalism and Ethics         3           Major: Concentration           COSC 2347         Special Topics/Programming         3           COSC 3327         Computer Architecture         3           COSC 4149         Seminar in Computer Science         1           DFSC 1316         Digital Forensics & Information Assurance Fundamentals I         3           DFSC 2316         Digital Forensics & Information Assurance Fundamentals II         3           DFSC 3316         Cryptography and Network Security         3           DFSC 4317         Information Security         3           DFSC Advanced Electives         3           Electives: Advanced General         4           Advanced General Electives         9           4+1 Master of Science in Computing and Data Science 3         3           COSC 5319         Algorithm Design and Analysis         3           COSC 5300         Computer Science Internship         6           COSC 6319 <td>COSC 2329</td> <td>Computer Organization &amp; Machine Language</td> <td>3</td>	COSC 2329	Computer Organization & Machine Language	3
COSC 4318         Advanced Language Concepts         3           COSC 4319         Software Engineering         3           COSC 4349         Professionalism and Ethics         3           Major: Concentration           COSC 2347         Special Topics/Programming         3           COSC 3327         Computer Architecture         3           COSC 4149         Seminar in Computer Science         1           DFSC 1316         Digital Forensics & Information Assurance Fundamentals I         3           DFSC 2316         Digital Forensics & Information Assurance Fundamentals II         3           DFSC 3316         Cryptography and Network Security         3           DFSC 4317         Information Security         3           DFSC Advanced Electives         3           Electives: Advanced General         4           Advanced General Electives         9           4+1 Master of Science in Computing and Data Science 3         3           COSC 5318         Database Systems         3           COSC 5319         Algorithm Design and Analysis         3           COSC 5340         Special Topics (taken twice)         6           or COSC 5300         Computer Science Internship           COSC 6319         Software Enginee	COSC 3318	Data Base Management Systems	
COSC 4319         Software Engineering         3           COSC 4349         Professionalism and Ethics         3           Major: Concentration           COSC 2347         Special Topics/Programming         3           COSC 3327         Computer Architecture         3           COSC 4149         Seminar in Computer Science         1           DFSC 1316         Digital Forensics & Information Assurance Fundamentals I         3           DFSC 2316         Digital Forensics & Information Assurance Fundamentals II         3           DFSC 3316         Cryptography and Network Security         3           DFSC 4317         Information Security         3           DFSC 44317         Information Security         3           DFSC Advanced Electives         9           44vanced General Electives         9           44v1 Master of Science in Computing and Data Science 3         9           COSC 5318         Database Systems         3           COSC 5319         Algorithm Design and Analysis         3           COSC 5340         Special Topics (taken twice)         6           or COSC 5300         Computer Science Internship         6	COSC 3319	Data Structures and Algorithms	3
COSC 4349         Professionalism and Ethics         3           Major: Concentration           COSC 2347         Special Topics/Programming         3           COSC 3327         Computer Architecture         3           COSC 4149         Seminar in Computer Science         1           DFSC 1316         Digital Forensics & Information Assurance Fundamentals I         3           DFSC 2316         Digital Forensics & Information Assurance Fundamentals II         3           DFSC 3316         Cryptography and Network Security         3           DFSC 4317         Information Security         3           Electives: Advanced Electives         3           Electives: Advanced General           At 1 Master of Science in Computing and Data Science <sup>3</sup> COSC 5318         Database Systems         3           COSC 5319         Algorithm Design and Analysis         3           COSC 5340         Special Topics (taken twice)         6           or COSC 5300         Computer Science Internship         6           COSC 6319         Software Engineering         3	COSC 4318	Advanced Language Concepts	3
Major: Concentration           COSC 2347         Special Topics/Programming         3           COSC 3327         Computer Architecture         3           COSC 4149         Seminar in Computer Science         1           DFSC 1316         Digital Forensics & Information Assurance Fundamentals I         3           DFSC 2316         Digital Forensics & Information Assurance Fundamentals II         3           DFSC 3316         Cryptography and Network Security         3           DFSC 4317         Information Security         3           DFSC Advanced Electives         3           Electives: Advanced General           Advanced General Electives         9           4+1 Master of Science in Computing and Data Science <sup>3</sup> COSC 5318         Database Systems         3           COSC 5319         Algorithm Design and Analysis         3           COSC 5340         Special Topics (taken twice)         6           or COSC 5300         Computer Science Internship         6           COSC 6319         Software Engineering         3	COSC 4319	Software Engineering	3
COSC 2347         Special Topics/Programming         3           COSC 3327         Computer Architecture         3           COSC 4149         Seminar in Computer Science         1           DFSC 1316         Digital Forensics & Information Assurance Fundamentals I         3           DFSC 2316         Digital Forensics & Information Assurance Fundamentals II         3           DFSC 3316         Cryptography and Network Security         3           DFSC 4317         Information Security         3           DFSC Advanced Electives         3           Electives: Advanced General         4           Advanced General Electives         9           4+1 Master of Science in Computing and Data Science <sup>3</sup> 3           COSC 5318         Database Systems         3           COSC 5319         Algorithm Design and Analysis         3           COSC 5340         Special Topics (taken twice)         6           or COSC 5300         Computer Science Internship         6           COSC 6319         Software Engineering         3	COSC 4349	Professionalism and Ethics	3
COSC 3327         Computer Architecture         3           COSC 4149         Seminar in Computer Science         1           DFSC 1316         Digital Forensics & Information Assurance Fundamentals I         3           DFSC 2316         Digital Forensics & Information Assurance Fundamentals II         3           DFSC 3316         Cryptography and Network Security         3           DFSC 4317         Information Security         3           DFSC Advanced Electives         3           Electives: Advanced General         4           Advanced General Electives         9           4+1 Master of Science in Computing and Data Science <sup>3</sup> 2           COSC 5318         Database Systems         3           COSC 5319         Algorithm Design and Analysis         3           COSC 5340         Special Topics (taken twice)         6           or COSC 5300         Computer Science Internship           COSC 6319         Software Engineering         3	Major: Concentration		
COSC 4149         Seminar in Computer Science         1           DFSC 1316         Digital Forensics & Information Assurance Fundamentals I         3           DFSC 2316         Digital Forensics & Information Assurance Fundamentals II         3           DFSC 3316         Cryptography and Network Security         3           DFSC 4317         Information Security         3           DFSC Advanced Electives         3           Electives: Advanced General         4           Advanced General Electives         9           4+1 Master of Science in Computing and Data Science 3         9           COSC 5318         Database Systems         3           COSC 5319         Algorithm Design and Analysis         3           COSC 5340         Special Topics (taken twice)         6           or COSC 5300         Computer Science Internship         3           COSC 6319         Software Engineering         3	COSC 2347	Special Topics/Programming	3
DFSC 1316 Digital Forensics & Information Assurance Fundamentals I  DFSC 2316 Digital Forensics & Information Assurance Fundamentals II  DFSC 3316 Cryptography and Network Security  3  DFSC 4317 Information Security  3  DFSC Advanced Electives  Electives: Advanced General  Advanced General Electives  4+1 Master of Science in Computing and Data Science 3  COSC 5318 Database Systems  COSC 5319 Algorithm Design and Analysis  COSC 5340 Special Topics (taken twice)  or COSC 5300 Computer Science Internship  COSC 6319 Software Engineering  3  3  3  3  3  3  3  3  3  3  3  3  3	COSC 3327	Computer Architecture	3
DFSC 2316 Digital Forensics & Information Assurance Fundamentals II 3 DFSC 3316 Cryptography and Network Security 3 DFSC 4317 Information Security 3 DFSC Advanced Electives  Electives: Advanced General  Advanced General Electives 9 4+1 Master of Science in Computing and Data Science 3 COSC 5318 Database Systems 3 COSC 5319 Algorithm Design and Analysis 3 COSC 5340 Special Topics (taken twice) 6 or COSC 5300 Computer Science Internship COSC 6319 Software Engineering 3	COSC 4149	Seminar in Computer Science	1
DFSC 3316 Cryptography and Network Security 3 DFSC 4317 Information Security 3 DFSC Advanced Electives 3 Electives: Advanced General Advanced General Electives 9 4+1 Master of Science in Computing and Data Science 3 COSC 5318 Database Systems 3 COSC 5319 Algorithm Design and Analysis 3 COSC 5340 Special Topics (taken twice) 6 or COSC 5300 Computer Science Internship COSC 6319 Software Engineering 3	DFSC 1316	Digital Forensics & Information Assurance Fundamentals I	3
DFSC 4317 Information Security 3 DFSC Advanced Electives 3  Electives: Advanced General  Advanced General Electives 9  4+1 Master of Science in Computing and Data Science 3  COSC 5318 Database Systems 3  COSC 5319 Algorithm Design and Analysis 3  COSC 5340 Special Topics (taken twice) 6  or COSC 5300 Computer Science Internship  COSC 6319 Software Engineering 3	DFSC 2316	Digital Forensics & Information Assurance Fundamentals II	3
DFSC Advanced Electives  Electives: Advanced General  Advanced General Electives  4+1 Master of Science in Computing and Data Science  COSC 5318  Database Systems  COSC 5319  Algorithm Design and Analysis  COSC 5340  Special Topics (taken twice)  or COSC 5300  Computer Science Internship  COSC 6319  Software Engineering  3  3  3  3  3  3  3  3  3  3  3  3  3	DFSC 3316	Cryptography and Network Security	3
Electives: Advanced General  Advanced General Electives  4+1 Master of Science in Computing and Data Science  COSC 5318  Database Systems  COSC 5319  Algorithm Design and Analysis  COSC 5340  Special Topics (taken twice)  or COSC 5300  Computer Science Internship  COSC 6319  Software Engineering  3  3  3  3  3  3  3  3  3  3  3  3  3	DFSC 4317	Information Security	3
Advanced General Electives  4+1 Master of Science in Computing and Data Science  COSC 5318  Database Systems  3  COSC 5319  Algorithm Design and Analysis  COSC 5340  Special Topics (taken twice)  or COSC 5300  Computer Science Internship  COSC 6319  Software Engineering  3	DFSC Advanced Electives		3
4+1 Master of Science in Computing and Data Science 3COSC 5318Database Systems3COSC 5319Algorithm Design and Analysis3COSC 5340Special Topics (taken twice)6or COSC 5300Computer Science InternshipCOSC 6319Software Engineering3	<b>Electives: Advanced General</b>		
COSC 5318 Database Systems 3 COSC 5319 Algorithm Design and Analysis 3 COSC 5340 Special Topics (taken twice) 6 or COSC 5300 Computer Science Internship COSC 6319 Software Engineering 3			9
COSC 5319 Algorithm Design and Analysis 3 COSC 5340 Special Topics (taken twice) 6 or COSC 5300 Computer Science Internship COSC 6319 Software Engineering 3	4+1 Master of Science in Computing	g and Data Science <sup>3</sup>	
COSC 5340 Special Topics (taken twice) 6 or COSC 5300 Computer Science Internship COSC 6319 Software Engineering 3	COSC 5318	Database Systems	3
or COSC 5300 Computer Science Internship COSC 6319 Software Engineering 3	COSC 5319	Algorithm Design and Analysis	3
COSC 6319 Software Engineering 3	COSC 5340	Special Topics (taken twice)	6
	or COSC 5300	Computer Science Internship	
Track Electives 9	COSC 6319	Software Engineering	3
	Track Electives		9

Thesis OD Internahin Ontion

Thesis OR Internship Opt	tion	б
Thesis		
COSC 6049	Thesis	
COSC 6348	Thesis	
Internship		
COSC 5300	Computer Science Internship	
COSC 6347	Programming Practicum	
Total Hours		150

- MATH 1420 satisfies the Core Curriculum requirement for Component Area II (Mathematics), one semester credit hour of the Core Curriculum requirement for Component Area IX (Component Area Option), and the Degree Specific requirement.
- Students who are not eligible for enrollment in MATH 1420 will have additional mathematics requirements.
- Students planning to pursue the 4+1 CDS option must complete the Graduate Application process and be accepted to the MS in CDS program. In order to apply to the 4+1 CDS program students must complete all undergraduate degree plan requirements (minimum of 120 semester credit hours) and all admission requirements. Once a student is accepted to the graduate CDS program, students are eligible to begin the CDS program upon completion of all admission requirements. The graduate program will begin in the Summer I semester term each year and will run as a cohort model. Students may apply to the program while coursework is in-progress but may not begin the graduate CDS program until the 120 semester credit hours are completed.

## **Notes**

Students must earn a 2.0 minimum overall GPA in all coursework.

Students must meet a 2.0 minimum overall major GPA in all major coursework.

Students must earn a 2.0 minimum SHSU GPA in all coursework.

Students must meet a 2.0 minimum SHSU major GPA in all major coursework.

Students who are preparing to apply to graduate CDS programs should earn a "C" or better in their coursework. All CS majors and/or minors must earn a "C" or better for all COSC/DFSC courses and all CDS prospective students must earn a "C" or better in all pre-requisite courses.

The minimum number of credit hours required for a baccalaureate degree is 120. The minimum number of advanced credit hours for a baccalaureate degree is 42. Students may take free elective courses beyond the hours identified in the recommended 4-year plan to meet the overall credit hour and advanced credit hour requirements.

Additional information: Reference the Program Landing Page (https://www.shsu.edu/programs/bachelor-of-science-in-computing-science/) for additional information, such as cost, delivery format, contact information, or to schedule a visit.

First Year				
Fall	Hours	Spring	Hours	
Component Area III		4 Component Area III		4
COSC 1436		4 COSC 1437		4
ENGL 1301 <sup>1</sup>		3 ENGL 1302 <sup>1</sup>		3
MATH 1420 <sup>2</sup>		4 MATH 1430		4
		15		15
Second Year				
Fall	Hours	Spring	Hours	
Component Area IV		3 Component Area V		3
Component Area VIII		3 COSC 2347		3
COSC 2329		3 COSC 3318		3
HIST 1301 <sup>3</sup>		3 HIST 1302 <sup>3</sup>		3
POLS 2305 <sup>4</sup>		3 POLS 2306 <sup>4</sup>		3
		15		15
Third Year				
Fall	Hours	Spring	Hours	
COSC 3319		3 Component Area IX		3
DFSC 1316		3 COSC 3327		3

MATH 2395		3 DFSC 2316		3		
Degree Specific Requirement: Science		4 STAT 3379		3		
Elective (Advanced)		3 Degree Specific Requirement: Scienc	ce	4		
		16		16		
Fourth Year						
Fall	Hours	Spring	Hours	Summer	Hours	
COSC 4318		3 COSC 4149		1 COSC 5340 or 5300 (taken twice) <sup>5</sup>		6
DFSC 3316		3 COSC 4319		3		
Advanced General Elective		6 COSC 4349		3		
DFSC Advanced Election	ve	3 DFSC 4317		3		
MATH (Advanced)		3				
www.titt(/tavaneca)		•				
www.inceay		18		10		6
Fifth Year				10		6
	Hours		Hours	10 Summer	Hours	6
Fifth Year	Hours	18	Hours		Hours	<b>6</b>
Fifth Year Fall	Hours	18 Spring	Hours	Summer		
Fifth Year Fall COSC 5318	Hours	18 Spring 3 COSC 5319		Summer 3 Track Electives		3
Fifth Year Fall COSC 5318	Hours	Spring 3 COSC 5319 6 COSC 6319 Thesis OR Internship		Summer 3 Track Electives 3 Thesis OR Internship		3
Fifth Year Fall COSC 5318	Hours	Spring 3 COSC 5319 6 COSC 6319 Thesis OR Internship		Summer 3 Track Electives 3 Thesis OR Internship 3 Thesis		3
Fifth Year Fall COSC 5318	Hours	Spring 3 COSC 5319 6 COSC 6319 Thesis OR Internship Option Thesis		Summer 3 Track Electives 3 Thesis OR Internship 3 Thesis  COSC 6049		3
Fifth Year Fall COSC 5318	Hours	Spring 3 COSC 5319 6 COSC 6319 Thesis OR Internship Option Thesis COSC 6049		Summer 3 Track Electives 3 Thesis OR Internship 3 Thesis  COSC 6049  COSC 6348		3
Fifth Year Fall COSC 5318	Hours	Spring 3 COSC 5319 6 COSC 6319 Thesis OR Internship Option Thesis COSC 6049 COSC 6348		Summer 3 Track Electives 3 Thesis OR Internship 3 Thesis  COSC 6049  COSC 6348  Internship		3
Fifth Year Fall COSC 5318	Hours	Spring 3 COSC 5319 6 COSC 6319 Thesis OR Internship Option Thesis COSC 6049 COSC 6348 Internship		Summer 3 Track Electives 3 Thesis OR Internship 3 Thesis  COSC 6049  COSC 6348  Internship  COSC 5300		3

**Total Hours: 150** 

Satisfies Core Curriculum requirement for Component Area I (Communications).

- Satisfies the Core Curriculum requirement for Component Area II (Mathematics), one semester credit hour of the Core Curriculum requirement for Component Area IX (Component Area Option), and the Degree Specific requirement. Students who are not eligible for enrollment in MATH 1420 will have additional mathematics requirements.
- Satisfies Core Curriculum requirement for Component Area VI (U.S. History).
- <sup>4</sup> Satisfies Core Curriculum requirement for Component Area VII (Political Science/ Government).
- Students planning to pursue the 4+1 CDS option must complete the Graduate Application process and be accepted to the MS in CDS program. In order to apply to the 4+1 CDS program students must complete all undergraduate degree plan requirements (minimum of 120 semester credit hours) and all admission requirements. Once a student is accepted to the graduate CDS program, students are eligible to begin the CDS program upon completion of all admission requirements. The graduate program will begin in the Summer I semester term each year and will run as a cohort model. Students may apply to the program while coursework is in-progress but may not begin the graduate CDS program until the 120 semester credit hours are completed.

## Notes

Students must earn a 2.0 minimum overall GPA in all coursework.

Students must meet a 2.0 minimum overall major GPA in all major coursework.

Students must earn a 2.0 minimum SHSU GPA in all coursework.

Students must meet a 2.0 minimum SHSU major GPA in all major coursework.

Students who are preparing to apply to gradate CDS programs should earn a "C" or better in their coursework. All CS majors and/or minors must earn a "C" or better for all COSC/DFSC courses and all CDS prospective students must earn a "C" or better in all pre-requisite courses.

4 Bachelor of Science, Major in Computing Science (IA): 4+1 MS Computing and Data Science

The minimum number of credit hours required for a baccalaureate degree is 120. The minimum number of advanced credit hours for a baccalaureate degree is 42. Students may take free elective courses beyond the hours identified in the recommended 4-year plan to meet the overall credit hour and advanced credit hour requirements.

AppThe Texas Higher Education Coordinating Board (THECB) marketable skills initiative is part of the state's **60x30TX plan** and was designed to help students articulate their skills to employers. Marketable skills are those skills valued by employers and/or graduate programs that can be applied in a variety of work or education settings and may include interpersonal, cognitive, and applied skill areas.

The BS in Computing Science (Information Assurance, IA): 4+1 MS in Computing and Data Science is designed to provide graduates with the following marketable skills:

- · Solving complex technology-related problems.
- · Applying theoretical principles to the software engineering process.
- · Technical communication.
- · System and network defense.
- · Identify and solve complex computing problems in information technology, business, medicine, and other essential industries.
- · World-class soft skills in complex problem-solving, communication, and creative thinking.
- · Strong technical skills and interpersonal skills to work as a group.
- Superior technical writing skills to document and publish their findings.