

BACHELOR OF SCIENCE, MAJOR IN SOFTWARE ENGINEERING

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

Code	Title	Hours
Bachelor of Science, Major in Software Engineering		
Core Curriculum		
	Component Area I (Communication)	6
	Component Area II (Mathematics) ¹	3
	Component Area III (Life and Physical Science)	8
	Component Area IV (Language, Philosophy, and Culture)	3
	Component Area V (Creative Arts)	3
	Component Area VI (U.S. History)	6
	Component Area VII (Political Science/Government)	6
	Component Area VIII (Social and Behavioral Sciences)	3
	Component Area IX (Component Area Option) ¹	4
Degree Specific Requirements		
MATH 1420	Calculus I ^{1 & 2}	4
MATH 1430	Calculus II	4
MATH 2395	Discrete Mathematics	3
MATH 3379	Statistical Methods in Practice	3
	3 ADV MATH hours	3
Major: Foundation		
COSC 1436	Programming Fundamentals I	4
COSC 1437	Programming Fundamentals II	4
COSC 2327	Introduction to Computer Networks	3
COSC 2329	Computer Organization & Machine Language	3
COSC 3312	Numerical Methods	3
COSC 3318	Data Base Management Systems	3
COSC 3319	Data Structures and Algorithms	3
COSC 3321	Digital System Design	3
COSC 3327	Computer Architecture	3
COSC 4314	Data Mining	3
COSC 4318	Advanced Language Concepts	3
COSC 4319	Software Engineering	3
COSC 4320	System Modeling and Simulation	3
COSC 4332	Computer Graphics	3
COSC 4340	Special Topics in Computer Science	3
COSC 4349	Professionalism and Ethics	3
Major: Prescribed Electives		
	COSC or DFSC Electives (3 hours must be advanced)	6
Electives: General		
	General Electives	9
Minor: Not Required ^{3,4}		
Total Hours		120

¹ MATH 1420 satisfies the Core Curriculum requirement for Component Area II (Mathematics) and one semester credit hour of Component Area IX (Component Area Option).

² Students who are not eligible to take MATH 1420 may have additional mathematics requirements.

³ A minor is not required for this degree program; however, a student has the option to add a minor, but to do so additional semester credits hours will be needed above the degree program's stated total semester credit hours.

2 Bachelor of Science, Major in Software Engineering

4 All minors can be paired with this degree program.

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.

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First Year

Fall	Hours	Spring	Hours
Component Area III		4 Component Area III	4
COSC 1436		4 COSC 1437	4
ENGL 1301 ¹		3 ENGL 1302 ¹	3
MATH 1420 ^{2,3}		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 3312	3
COSC 2329		3 COSC 3318	3
HIST 1301 ⁴		3 HIST 1302 ⁴	3
POLS 2305 ⁵		3 POLS 2306 ⁵	3
		15	15

Third Year

Fall	Hours	Spring	Hours
Component Area IX		3 COSC 3327	3
COSC 2327		3 COSC 4314	3
COSC 3319		3 COSC 4318	3
COSC 3321		3 General Electives	3
MATH 2395		3 MATH 3379	3
		15	15

Fourth Year

Fall	Hours	Spring	Hours
COSC 4319		3 COSC 4340	3
COSC 4320		3 COSC 4349	3
COSC 4332		3 COSC/DFSC Advanced Electives	3
General Electives		3 COSC/DFSC Electives	3
MATH Advanced Elective		3 General Electives	3
		15	15

Total Hours: 120

¹ Satisfies Core Curriculum requirement for Component Area I (Communications).
² MATH 1420 satisfies Core Curriculum requirement for Component Area II (Mathematics) and one semester credit hour of the Core Curriculum requirement for Component Area IX (Component Area Option).
³ Students who are not eligible to take MATH 1420 may have additional mathematics requirements.
⁴ Satisfies Core Curriculum requirement for Component Area VI (U.S. History).
⁵ Satisfies Core Curriculum requirement for Component Area VII (Political Science/Government).

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The 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 Software Engineering is designed to provide graduates with the following marketable skills:

- Software design.
- Database management.
- Complex problem-solving.
- Application of theoretical principles to the solution of technological problems.
- Technical communication.