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 (https://catalog.shsu.edu/undergraduate/academic-policies-procedures/degree-requirements-academic-guidelines/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
Math Advanced Elective		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 4347	Embedded System Design and Internet of Things	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.

[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.

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

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First Year

Fall	Hours	Spring	Hours
Component Area III (https://catalog.shsu.edu/undergraduate/academic-policies-procedures/degree-requirements-academic-guidelines/core-curriculum/#componentareaiii)	4	Component Area III (https://catalog.shsu.edu/undergraduate/academic-policies-procedures/degree-requirements-academic-guidelines/core-curriculum/#componentareaiii)	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 (https://catalog.shsu.edu/undergraduate/academic-policies-procedures/degree-requirements-academic-guidelines/core-curriculum/#componentareaiv)	3	Component Area V (https://catalog.shsu.edu/undergraduate/academic-policies-procedures/degree-requirements-academic-guidelines/core-curriculum/#componentareav)	3
Component Area VIII (https://catalog.shsu.edu/undergraduate/academic-policies-procedures/degree-requirements-academic-guidelines/core-curriculum/#componentareaviii)	3	COSC 3312	3
COSC 2329	3	COSC 3318	3
HSTY 1301[4]	3	HSTY 1302[4]	3
POLS 2305[5]	3	POLS 2306[5]	3
	15		**15**

Third Year

Fall	Hours	Spring	Hours
Component Area IX (https://catalog.shsu.edu/undergraduate/academic-policies-procedures/degree-requirements-academic-guidelines/core-curriculum/#componentareaix)[2]	3	COSC 3327	3
COSC 2327	3	COSC 4314	3
COSC 3319	3	COSC 4318	3
COSC 3321	3	MATH 3379	3
MATH 2395	3	General Electives	3
	15		**15**

Fourth Year

Fall	Hours	Spring	Hours
COSC 4319	3	COSC 4347	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).

Notes

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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.

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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.