

# BACHELOR OF SCIENCE IN COMPUTER SCIENCE

**Web Site:** <https://twu.edu/computer-science/degree-programs/bs-in-computer-science/>

## Degree Requirements

**Total Semester Credit Hours (SCH):** 120

**Major:** 44 SCH; **Required Minor:** 18 SCH

**Program Code:** COMPSCI.BS **CIP Code:** 11.0101.00

## Texas Core Curriculum

Code	Title	SCHs
ENG 1013	Composition I	3
ENG 1023	Composition II	3
Mathematics		3
Life & Physical Sciences		6
Language, Philosophy, & Culture		3
Creative Arts		3
HIST 1013	History of the United States, 1492-1865	3
HIST 1023	History of the United States, 1865 to the Present	3
POLS 2013	U.S. National Government	3
POLS 2023	Texas Government	3
Social & Behavioral Sciences		3
CAO: Women's Studies		3
CAO: First Year Seminar, Wellness or Mathematics		3
<b>Total SCHs</b>		<b>42</b>

## Courses Required for Major

Code	Title	SCHs
CSCI 1423 & CSCI 1421	Programming Fundamentals I and Programming Fundamentals I - Laboratory	4
CSCI 2443	Computer Organization and Machine Language	3
CSCI 2493	Programming Fundamentals II	3
CSCI 3053	Data Structures	3
CSCI 3413	Software Engineering	3
CSCI 3423	Database Management	3
CSCI 3443 & CSCI 3441	Digital Logic and Computer Architecture and Digital Logic and Computer Architecture - Laboratory	4
CSCI 3503	Operating Systems	3
CSCI 3613	Algorithm Analysis and Design	3
CSCI 4313	Networking and Data Communication	3

## Computer Science Electives

Take 12 SCH from the following Essential and Applied Computing courses

Essential options - Take a minimum of 2 of the following courses:

CSCI 3313	App Development for Mobile Devices
CSCI 3323	Robotics Design and Development

CSCI 3703	Interface Design and Development
CSCI 4623	Big Data and High Performance Computing
CSCI 4723	Machine Learning
CSCI 4803	Programming for the Web
CSCI 4823	Principles of Data Mining
Applied Options - Take a minimum of 1 of the following courses:	
CSCI 2513	Information Security and Ethics
CSCI 3103	Applied Computer Graphics
CSCI 3353	Interactive Digital Art
CSCI 3603	Foundations of Data Science
CSCI 3803	Website Development
CSCI 4303	Advanced Modeling and Visualization
CSCI 4353	Advanced Interactive Digital Art
CSCI 4513	Data Warehousing

**Total SCHs** **44**

## Departmental Requirements

Code	Title	SCHs
MATH 2014	Calculus I	4
MATH 3013	Discrete Mathematics	3
MATH 3073	Matrix Methods	3-4
or MATH 2024	Calculus II	
or MATH 4013	Probability and Statistics	
Electives/Minor		24

All students must complete three semester credit hours in approved Global Perspectives courses (graduation requirement).