Sequence of CS Core Courses and Concentrations (UTSA 2018-2020 Catalog)

Assumed Precollege

MAT 1073 Algebra for Scis. & Engs.

MAT 1093 Precalculus

MAT 1214 Calculus I

MAT 1224 Calculus II

CS 2233 Discrete Math

CS 3333 Math. Foundations

CS 3443 App. Programming

CS 3723 Prog. Languages

CS 3743 Database Systems

CS 3773 Software Engineering

CS 3783 Advanced Topics in Database Systems

CS 3843/1 Comp. Org.

CS 3853 Comp. Architecture

CS 3863 Dist. Computing & Systems

Concentration in Cloud & Systems
CS 4843 Cloud Computing
Select three of:
CS 3873 Computer Networks
CS 4243 Large-Scale Data Management
CS 4633 Simulation Techniques
CS 4663 Distributed & Cloud Syst. Sec.
CS 4713 Compiler Construction
CS 4823 Parallel Programming
CS 4833 Embedded Systems
CS 4853 Advanced Syst. Programming
CS 4863 Dist. Computing & Systems
CS 4963 Advanced Topics in Systems & Cloud

Concentration in Cyber Security
CS 2433 Principles of Cyber Security
Select three of:
CS 3433 Computer & Information Security
CS 4353 Unix & Network Security
CS 4363 Cryptography
CS 4643 Cellular & Mobile Technologies
CS 4653 Software & Malware Reverse Engineering
CS 4663 Distributed & Cloud Systems Security
CS 4673 Cyber Operations
CS 4683 Secure Software Development & Analysis

Concentration in Software Engineering
CS 3773 Software Engineering
Select two of:
CS 4393 User Interfaces
CS 4683 Secure Software Dev. & Analysis
CS 4723 Software Valid. & Qual. Assurance
CS 4743 Enterprise Software Engineering
CS 4773 Object-Oriented Systems
CS 4783 Advanced Software Engineering

Concentration in Data Science
CS 3753 Data Science
Select two of:
CS 3793 Artificial Intelligence
CS 4223 Bioinformatics & Big Data
CS 4233 Comp. Biology & Bioinformatics
CS 4243 Large-Scale Data Management
CS 4373 Data Mining
CS 4973 Advanced Topics in Data Science

Concentration in Operating Systems
CS 3733 Operating Systems

Gateway Courses
Students pursuing the B.S. degree in Computer Science must successfully complete each of the Gateway Courses with a grade of "C-" or better in no more than two attempts.

Degree Hours:
42 hours core curriculum
48 hours required CS courses
24 hours upper division CS electives
6 hours free electives
120 hours total

All courses in concentrations are elective courses. See catalog for more details about prerequisites.
Computer Science Electives
(UTSA 2018-2020 Catalog)

CS 1023  Cultural Implications of the Information Society
CS 1033  Microcomputer Applications
CS 1143  Web Design
CS 1153  Game Programming
CS 1173  Data Analysis and Visualization
CS 2073  Computer Programming with Engineering Applications
CS 2153  Game Design
CS 3113  Principles of Cyber Security
CS 3433  Computer and Information Security
CS 3753  Data Science
CS 3773  Software Engineering
CS 3793  Artificial Intelligence
CS 3873  Computer Networks
CS 4223  Bioinformatics and Big Data
CS 4233  Computational Biology and Bioinformatics
CS 4243  Large-Scale Data Management
CS 4313  Automata, Computability, and Formal Languages
CS 4353  Unix and Network Security
CS 4363  Cryptography
CS 4373  Data Mining
CS 4383  Computer Graphics
CS 4393  User Interfaces
CS 4413  Web Technologies
CS 4423  Game Development
CS 4593  Topics in Computer Science
CS 4633  Simulation Techniques
CS 4643  Cellular and Mobile Technologies
CS 4653  Software and Malware Reverse Engineering
CS 4663  Distributed and Cloud Systems Security
CS 4673  Cyber Operations
CS 4683  Secure Software Development and Analysis
CS 4713  Compiler Construction
CS 4723  Software Validation and Quality Assurance
CS 4743  Enterprise Software Engineering
CS 4773  Object-Oriented Systems
CS 4783  Advanced Software Engineering
CS 4823  Parallel Programming
CS 4833  Embedded Systems
CS 4843  Cloud Computing
CS 4853  Advanced Systems Programming
CS 4863  Distributed Computing and Systems
CS 4963  Advanced Topics in Systems and Cloud
CS 4973  Advanced Topics in Data Science
CS 4993  Honors Research