## Bachelor of Science – Computer Science

### Degree Plan

**Catalog: 2013-14**  
Expires: 08/01/2020

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#### A Core Curriculum (45 SCH)

- Communication (9 credit hours required)
  - ENGL 1311*
    - Expos. English Composition
  - ENGL 1312*
    - Research & Critical Writing
  - COMM 1301* or COMM 1302*

- Mathematics (4)
  - MATH 1411*
    - Calculus I

- Quantitative Science Sequence (6)****
  - Complete one sequence line:
    - PHYS 2420* + PHYS 2421*
    - BIOL 1305* + 1107* + 1306* + 1108*
    - CHEM 1305* + 1105* + 1306* + 1108*
    - GEOL 1313* + 1103* + 1314* + 1104*

- Humanities (3)
  - PHIL 2306*

- Visual and Performing Arts (3)
  - Circle one:
    - ART 1300*, ARTH 1305*, 1306*, ARTS 3320*, DANC 1304*, MUSL 1321*, 1324*, 1327*, THEA 1313*, FILM 1390*

- U.S. History (6)
  - HIST 1301*
    - History of the U.S. to 1865
  - HIST 1302*
    - History of the U.S. since 1865

- Political Science (6) – all 6 SCH must be completed at the same institution
  - POLS 2310*
    - Introduction to Politics
  - POLS 2311*
    - American Gov't. & Politics

- Social and Behavioral Sciences (3)
  - Circle one:
    - University Designated Option (3)
    - UNIV 1301* or UNIV 2350*

#### B Foundational Math (15 SCH)

- MATH 1312*
  - Calculus II
- MATH 2300*
  - Discrete Mathematics
- MATH 3323*
  - Matrix Algebra
- MATH 4329
  - Numerical Analysis
- STAT 3320
  - Probab & Stat for Comp Sci

#### C Major: Required Lower Division Courses (15 SCH)

- CS 1401*
  - Introduction to Computer Science
- CS 2401*
  - Elementary Data Structures and Algorithms
- CS 2302*
  - Data Structures
- EE 2369*
  - Digital Systems Design I
- EE 2169*
  - Digital Systems Design I Lab

#### D Major: Required Upper Division Courses (23 SCH)

- CS 3195
  - Junior Professional Orientation
- CS 3331*
  - Advanced Object-Oriented Programming
- CS 3350
  - Automata, Computability, and Formal Languages
- CS 3380
  - Design and Implementation of Programming Languages
- CS 3432*
  - Computer Architecture I: Basic Computer Organization & Design
- CS 4310*
  - Software Engineering: Requirements Engineering
- CS 4311
  - Software Engineering: Design and Implementation
- CS 4375
  - Theory of Operating Systems
- CS 3432*
  - Computer Architecture I: Basic Computer Organization & Design
- CS 4310*
  - Software Engineering: Requirements Engineering
- CS 4311
  - Software Engineering: Design and Implementation
- CS 4375
  - Theory of Operating Systems

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#### E Technical Electives (15 SCH)***

- U.S. History (6)
  - HIST 1301*
    - History of the U.S. to 1865
  - HIST 1302*
    - History of the U.S. since 1865

- Political Science (6) – all 6 SCH must be completed at the same institution
  - POLS 2310*
    - Introduction to Politics
  - POLS 2311*
    - American Gov't. & Politics

- Social and Behavioral Sciences (3)
  - Circle one:
    - University Designated Option (3)
    - UNIV 1301* or UNIV 2350*

#### F Lab Science Elective (4 SCH)****

- U.S. History (6)
  - HIST 1301*
    - History of the U.S. to 1865
  - HIST 1302*
    - History of the U.S. since 1865

- Political Science (6) – all 6 SCH must be completed at the same institution
  - POLS 2310*
    - Introduction to Politics
  - POLS 2311*
    - American Gov't. & Politics

- Social and Behavioral Sciences (3)
  - Circle one:
    - University Designated Option (3)
    - UNIV 1301* or UNIV 2350*

#### G Free Elective (3 SCH) -- any college-level courses offered by the colleges of Liberal Arts, Business, Science, or Engineering

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#### BSCS Total Hours

120

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**NOTE: Overall GPA ≥ 2.0 AND In-Major GPA ≥ 2.0 REQUIRED for graduation**

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**APPROVALS:**

**ADVISOR**

**DATE**

**CHAIR**

**DATE**

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* C or better required

** Official substitution form available at http://engineering.utep.edu/plaza/Academic Forms/index.html

*** CS 3320, CS 3370, or any CS 4000 level course. No more than six credit hours of CS 4390, CS 4371, CS 4373, and/or CS 4392 (in any combination) can count for technical electives.

**** Students must complete either PHYS 2420 or PHYS 2421 (in the Quantitative Science Sequence or the Lab Science Elective). Credit for a course may not be applied to both the Quantitative Science Sequence and the Lab Science Elective requirements.