BS SOFTWARE ENGINEERING  Flowchart

☐ 60 units upper division  ☐ GWR
☐ 2.0 GPA  ☐ USCP

* = Required in Major/Support; also satisfies GE

Note: No major or support courses may be taken as credit/no credit.

MAJOR COURSES

CSC 101 Fundamentals of Computer Science I........ 4
CSC 102 Fundamentals of Computer Science II
or CSC 108 Accelerated Intro Computer Science 4
CSC 103 Fundamentals of Computer Science III.... 4
CSC 141 Discrete Structures I....................... 4
CSC 225 Intro to Computer Organization.......... 4
CSC 300 Professional Responsibilities .......... 4
CSC 305 Individual Software Design & Dev. ..... 4
CSC 308 Software Engineering I................... 4
CSC 309 Software Engineering II.................. 4
CSC 349 Design and Analysis of Algorithms........ 4
CSC 357 Systems Programming........................ 4
CSC 402 Software Requirements Engineering....... 4
CSC 405 Software Construction........................ 4
CSC 406 Software Deployment........................ 4
CSC 430 Programming Languages I................ 4
CSC 453 Intro to Operating Systems............... 4
CSC 484 User-Centered Interface Design & Dev. 4
CSC 491, 492 Senior Project Design Lab I, II ...... 2,3

1  Technical electives. ..................................... 20

Select from Category 1 and 2 in technical electives guidelines, below.

1.2  Approved cooperative education experience via
CSC 400 or technical elective equivalent .......... 4
See technical electives guidelines, below, and, in particular, Category 3.

SUPPORT COURSES

BIO 213 and ENGR/BRAE 213 (B2)*.................. 2,2
BIO 111 (4) or BIO 115 (4) or BIO 161 (4) or
BOT 121 (4) or MCRO 221 (4) or
MCRO 224 (5) (B2)* (4/3/12)
ENGL 149 Technical Writing for Engineers (A3)*  4
IME 314 Engineering Economics.................... 3
MATH 141, 142 Calculus I, II (B1)* ............... 4,4
MATH 143 Calculus III (Add’l Area B)* .......... 4
MATH 241 Calculus IV.................................. 4
MATH 244 Linear Analysis I.......................... 4
Select one from: MATH 248, 304, 335, 336, 451.... 4
PSY 201/202 General Psychology (D4)*............. 4
PSY 350 Teamwork or PSY 351 Group Dynamics 4

Select electives (B3/4)* (Add’l 4 units Area B)* 12

CHEM 124, 125, 129 or
PHYS 141, 132, 133

STAT 312 Statistical Methods for Engineers (B6)*  4

GENERAL EDUCATION (GE)
72 units required, 36 of which are specified in Major/Support.
See page 50 for complete GE course listing.
Minimum of 8 units required at the 300 level.

Area A Communication (8 units)

A1 Expository Writing .................................. 4
A2 Oral Communication ................................ 4
A3 Reasoning, Argumentation and Writing * 4
units in Support ........................................... 0

Area B Science and Mathematics (no add’l units req’d)

B1 Mathematics/Statistics * 8 units in Support..... 0
B2 Life Science * 4 units in Support.................. 0
B3 Physical Science * 4 units in Support.......... 0
B4 One lab taken with a B3 course
B5 (requirement for Liberal Arts students only)
B6 Upper-division Area B * 4 units in Support .... 0
Additional Area B units * 8 units in Support ..... 0

Area C Arts and Humanities (16 units)

C1 Literature .............................................. 4
C2 Philosophy ............................................ 4
C3 Fine/Performing Arts ............................... 4
C4 Upper-division elective ........................... 4

Area D/E Society and the Individual (12 units)

D1 The American Experience (40404) .............. 4
D2 Political Economy .................................. 4
D3 Comparative Social Institutions............... 4
D4 Self Dev (CSU Area E) * 4 units in Support.... 0

FREE ELECTIVES ........................................... 36

97

192

Technical Electives Guidelines
BS Software Engineering

Courses used to satisfy any other major, support, or general education requirement are not allowed to count toward Technical Elective requirement. Credit/No Credit grading is not allowed.

Contact the CSC Department for further information.

Category 1
Category 1a: Prerequisites and Individual Courses 8
Select 8 units from the following:

CSC/CPE 341/342, 365, 369, 448, 464, 471, 477,
480, 484, 488, 587

1  Consultation with advisor is recommended prior to selecting approved electives; bear in mind your selections may impact pursuit of post-baccalaureate studies and/or goals.
2  CSC/CPE 123 replaces this requirement for freshmen and transfer students admitted Fall 2010. (4/29/10) Alternately, an additional 4 units of CSC/CPE technical electives in Category 1 or 2 may be substituted. (2/27/12)
**Category 1b: Specialization Areas**

Select 4 units from each of two separate areas:

- **Graphics**: CSC/CPE 473, 474, 475, 476, 478, or CSC 572
- **Databases**: CSC/CPE 366, 466, 468, or CSC 560
- **Networks**: CSC/CPE 465 or 564
- **Software Engineering**: CSC/CPE 409, 437; CSC 508, or 509
- **Distributed Computing**: CSC/CPE 469 or 569
- **OS**: CSC/CPE 454, 456, 458, or CSC 550
- **Architecture**: CSC/CPE 315, 316, 416, 459, 520, or CPE 482 "Robotics"
- **Languages/Compilers**: CSC/CPE 431, 434, or CSC 530
- **GUI/HCI**: CSC/CPE 435, 483, 487, 581, or CSC 486
- **Artificial Intelligence**: CSC/CPE 416, 481, 485, 489, 580, 581, or CPE 482 "Autonomous Mobile Robots" or Multi-Robot Systems"
- **Computational Sciences/Theory**: CSC/CPE 449, CSC 343, 445, 540, or 541

**Category 2**

Select 4 units from the following:

- Additional CSC/CPE Electives
  - Select CSC 570 or any unused course from Categories 1a or 1b or from upper division courses approved as technical electives by CSC Department; *(5/14/13)*
- Auxiliary CSC/CPE Electives
  - Select from:
    - CSC 358, 400 (requires form/approval; cannot double count for Category 3 technical elective), 479 (maximum 2 units), 490
- External Electives
  - Select from:
    - AERO 450;
    - ART 384;
    - BUS 310, 320;
    - CHEM 216, 217, 218, 312, 316, 317, 318; *(7/5/12)*
    - ECON 339;
    - EE 201/251, 314, 336, 424;
    - ENVE 542;
    - GRC 316, 331, 338;
      - IME 301, 314, 356;
      - MATH 206, 242, 248, 304, 341, 350, 412;
      - ME 211, 212, 405;
      - PHIL 412, 422;
      - PSY 329, 333, 366, 457;
      - STAT 323, 324, 330

**Category 3 Cooperative Education Experience**

CSC 400 (requires form/approval) or technical elective equivalent. CSC 400 credit is limited to 4 units and it cannot be used in Category 2 and Category 3. Contact the CSC Department for further information.