BS in Software Engineering (BSSE), 2016-2017 Catalog

Pre-Professional Courses

CSE 1310 Intro to Programming (prerequisite: MATH 1302)
CSE 1105 Intro to CSE
CSE 1320 Intermediate Programming (coreq: Math 1421)
CSE 1325 Object-Oriented Programming
CSE 2312 Computer Organization
CSE 2100 Practical Systems
CSE 2320 Algorithms & Data Structures
CSE 3310 Intro to Software Eng.
CSE 3311 Object-Oriented Software Engineering
CSE 3315 Discrete Structures
CSE 3315 Theoretical CS
CSE 3320 Operating Systems
CSE 3331 Programming Languages

Math and Science Electives

• 3 hours of Math electives
• 4 hours of Science electives

See list of approved courses on second page

General Education

• Language/Philosophy/Culture elective
• HIST 1301
• HIST 1302
• POLS 2311
• POLS 2312
• Creative Arts elective
• Social/Behavioral (IE 2308 or ECON 2305)

Foreign Language

If required, two semesters of the same language

Only students who have completed all pre-professional courses satisfactorily and thus are admitted to the professional program may take 4000 level courses.

4000 Level Courses

CSE 4317 Senior Design II
CSE 4316 Senior Design I
CSE 4322 Software Project Management
CSE 4321 Software Testing
CSE 4361 Software Patterns

3 Technical Elective Courses

See list of approved courses on second page

Remember to check prerequisites.

The Senior Design courses must be taken in consecutive semesters: (Fall and Spring), (Spring and Summer), or (Summer and Fall). Spring and Fall is NOT an option.
### Mathematics Electives
- MATH 2326 - Calculus III (Fall, Spring, & Summer)
- CSE 4345 - Computational Methods (Fall & Spring)

### Science Electives
- BIOL 1441 – Cell and Molecular Biology (Fall, Spring, & Summer)
- CHEM 1441 – General Chemistry (Fall, Spring, & Summer)
- CHEM 1465 – Chemistry for Engineers (Fall, Spring, & Summer)
- PHYS 3313 & PHYS 3183 – Intro to Modern Physics (Fall & Spring)

### Technical Electives
- CSE 4303 – Computer Graphics
  prerequisites: CSE 2320 and CSE 3380 or MATH 3330 (Fall & Spring)
- CSE 4305 – Compilers
  prerequisites: CSE 3302 and CSE 3315 (Fall & Spring)
- CSE 4308 – Artificial Intelligence
  prerequisites: CSE 2320 and IE 3301 (Fall, Spring, & Summer)
- CSE 4309 – Fundamentals of Machine Learning
  prerequisites: CSE 2320, IE 3301 or MATH 3313, and CSE 3380 or MATH 3330 (Fall only)
- CSE 4310 - Fundamentals of Computer Vision
  prerequisites: CSE 2320, IE 3301 or MATH 3313, CSE 3380 or MATH 3330 (Spring only)
- CSE 4323 – Quantitative Computer Architecture
  prerequisites: CSE 3320 (Fall & Spring)
- CSE 4331 – Database Implementation and Theory
  prerequisites: CSE 3330 (Fall, Spring, & Summer)
- CSE 4334 – Datamining
  prerequisites: IE 3301 or MATH 3313 and coreq: CSE 3330 (Fall & Spring)
- CSE 4340 – Fundamentals of Wireless Networks
  prerequisites: CSE 4344 or CSE 4352 (Fluctuates)
- CSE 4344 – Computer Network Organization
  prerequisites: CSE 3320 (Fall, Spring, & Summer)
- CSE 4345 – Computational Methods
  prerequisites: CSE 2320, IE 3301 or MATH 3313, and CSE 3380 or MATH 3330 (Fall & Spring)
- CSE 4351 – Parallel Processing
  prerequisites: CSE 3320 (Fall & Spring)
- CSE 4360 - Autonomous Robot Design and Programming
  prerequisites: CSE 2320, CSE 3320, and CSE 3380 or MATH 3330 (Fall only)
- CSE 4378 – Intro to Unmanned Vehicles
  prerequisites: Department consent (Fall only)
- CSE 4380 – Information Security
  prerequisites: CSE 3320 (Fall & Spring)
- CSE 4381 – Information Security 2
  prerequisites: CSE 3320 and coreq CSE 4344 (Fall & Spring)
- CSE 4382 – Secure Programming
  prerequisites: CSE 3320 (Fall & Spring)
- CSE 4383 – Signal Processing
  prerequisites: CSE 2320 and CSE 3380 or MATH 3330 (Fall & Spring)
- IE 3315 – Operations Research I
  prerequisites: coreq MATH 2326 (Fall & Spring)

### Language, Philosophy & Culture Electives
- ANTHROPOLOGY (ANTH) 2322
- ARABIC (ARAB) 2310, 2314
- ARCHITECTURE (ARCH) 2300
- ART & ART HISTORY (ART) 1317
- American Sign Lang. (ASL) 2314
- CHINESE (CHIN) 2310, 2314
- CLASSICS (CLAS) 1300
- ENGLISH (ENGL) 2303, 2309, 2319, 2329
- FRENCH (FREN) 2310, 2314
- GERMAN (GERM) 2310, 2314
- GLOBAL (GLOBAL) 2301
- GREEK (GREK) 2314
- HISTORY (HIST) 2377
- INTERDISCIPLINARY STUDIES (INTS) 1310
- KOREAN (KORE) 2310, 2314
- LATIN (LATN) 2314
- LINGUISTICS (LING) 2371
- MEXICAN AMERICAN STUDIES (MAS) 2300
- PHILOSOPHY (PHIL) 1304, 2300, 2314
- RUSSIAN (RUSS) 2310, 2314
- SOCIOLOGY (SOCI) 1310
- SPANISH (SPAN) 2310, 2314, 2315
- WOMEN’S & GENDER STUDIES (WOMS) 2310

### Creative Arts Electives
- ARCHITECTURE (ARCH) 1301
- ART & ART HISTORY (ART) 1301, 1309, 1310
- DANCE (DNCE) 1300
- ENGLISH (ENGL) 1375
- MUSIC (MUSI) 1300, 1302, 1304, 2300, 2301
- THEATER ARTS (THEA) 1342, 1343

### History Electives
- HIST 1301
- HIST 1302
- HIST 1331
- HIST 1332