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 1300 Calculus I (Co-Req MATH 1421 or above)

CSE 1320 Intermediate Programming (coreq: Math 1421)

CSE 2100 Practical Systems

CSE 2300 Algorithms & Data Structures

CSE 2310 Discrete Structures

CSE 2315 Discrete Structures

CSE 3100 Intro to Software Eng.

CSE 3300 Programming Languages

CSE 3330 Databases

CSE 3301 Object-Oriented Software Engineering

CSE 3315 Theoretical CS

CSE 380 Linear Algebra

IE 3301 Engineering Probability and Stats

MATH 1426 Calculus I

MATH 2425 Calculus II

PHYS 1444 Technical Physics I

PHYS 1443 Technical Physics II

PHYS 1444 Technical Physics II

ENGL 1301

MATH 1421 or above

PHYS 1444 Technical Physics II

IE 3301 Engineering Probability and Stats

ENGR 1300 (PreReq ENGL 1301 and either ENGR 1250 or ENGL 1302)

pre/co req

prerequisite

Foreign Language
If required, two semesters of the same language

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

Math and Science Electives
- 3 hours of Math electives
- 4 hours of Science electives
See list of approved courses in SE Program Guide.

4000 Level Courses

CSE 4301 Software Design Patterns

CSE 4314 Professional Practices

CSE 4316 Senior Design I

CSE 4317 Senior Design II

CSE 4321 Software Testing

CSE 4361 Software Project Management

CSE 4322 Software Patterns

3 Technical Elective Courses

See list of approved courses in the Software Engineering Program Guide. Remember to check prerequisites.

Only students who have completed all pre-professional courses satisfactorily and thus are admitted to the professional program may take 4000 level courses.
SE 2016-2017 Classes

Mathematics Electives
- MATH 2326 - Calculus III
- MATH 3303 - Mathematical Game Theory
- MATH 3304 - Linear Optimization Applications
- CSE 4345 - Computational Methods

Science Electives
- BIOL 1441 – Cell and Molecular Biology
- CHEM 1441 – General Chemistry
- CHEM 1465 – Chemistry for Engineers

Technical Electives
- CSE 4303 – Computer Graphics
  prereqs: CSE 2320 and CSE 3380 or MATH 3330
- CSE 4305 – Compliers
  prereqs: CSE 3302 and CSE 3315
- CSE 4308 – Artificial Intelligence
  prereqs: CSE 2320 and IE 3301
- CSE 4309 – Intro to Machine Learning
  prereqs: CSE 2320, IE 3301 or MATH 3313, and CSE 3380 or MATH 3330 (Fall only)
- CSE 4310 – Intro to Computer Vision
  prereqs: CSE 2320, IE 3301 or MATH 3313, CSE 3380 or MATH 3330 (Spring only)
- CSE 4323 – Quantitative Computer Architecture
  prereqs: CSE 3320
- CSE 4331 – Database Implementation and Theory
  prereqs: CSE 3330
- CSE 4334 – Datamining
  prereqs: IE 3301 or MATH 3313 and co-req: CSE 3330
- CSE 4340 – Mobile Systems Engineering
  prereqs: CSE 3320 and co-req CSE 4344
- CSE 4344 – Computer Network Organization
  prereqs: CSE 3320
- CSE 4345 – Computational Methods
  prereqs: CSE 2320, IE 3301 or MATH 3313, and CSE 3380 or MATH 3330
- CSE 4351 – Parallel Processing
  Prereqs: CSE 3320
- CSE 4360 - Autonomous Robot Design and Programming
  prereqs: CSE 2320, CSE 3320, and CSE 3380 or MATH 3330 (Fall only)
- CSE 4378 – Intro to Unmanned Vehicles
  prereqs: Department consent (Fall only)
- CSE 4380 – Information Security
  prereqs: CSE 3320
- CSE 4381 – Information Security 2
  prereqs: CSE 3320 and coreq CSE 4344
- CSE 4382 – Secure Programming
  prereqs: CSE 3320
- CSE 4313 – Signal Processing
  prereqs: CSE 2320 and CSE 3380 or MATH 3330
- IE 3315 – Operations Research I
  prereqs: co-req MATH 2326

Language, Philosophy & Culture
- ANTHROPOLOGY (ANTH) 2322
- ARABIC (ARAB) 2310, 2314
- ARCHITECTURE (ARCH) 2300
- ART & ART HISTORY (ART) 1317
- CHINESE (CHIN) 2310, 2314
- INTRO TO CLASSICAL MYTHOLOGY (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
- PORTUGUESE (PORT) 2314
- RUSSIAN (RUSS) 2310, 2314
- INTRO TO POPULAR CULTURE (SOCI) 1310
- SPANISH (SPAN) 2310, 2314

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