BS in Computer Science (BSCS), 2014-2015 Catalog

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

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

Pre-Professional Courses
- CSE 1104 Intro to Engineering
- CSE 1310 Intro to Programming (prerequisite: MATH 1302)
- CSE 1320 Intermediate Programming (coreq: Math 1421)
- CSE 1325 Object-Oriented Programming
- CSE 2132 Computer Organization
- CSE 2320 Algorithms & Data Structures
- CSE 2330 Databases
- CSE 3302 Programming Languages
- CSE 3315 Theoretical CS
- CSE 3330 Operating Systems
- CSE 3330 Linear Algebra
- CSE 3310 Intro to Software Eng.
- CSE 3310 A Compilers
- CSE 3303 Computer Graphics
- CSE 3308 Artificial Intelligence

4000 Level Courses
- CSE 4305 Compilers
- CSE 4303 Computer Graphics
- CSE 4308 Artificial Intelligence

6 Technical Elective courses out of which at least one must be
CSE 4305 Compilers, CSE 4303 Computer Graphics, or CSE 4308 Artificial Intelligence

See list of approved courses in the Computer Science 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.
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 (only one can be 3000 level)
- 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 4321 – Software Testing and Maintenance
  prereqs: CSE 3310
- CSE 4322 – Software Project Management
  prereqs: CSE 3310
- 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 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 4361 – Software Design Patterns
  prereqs: CSE 3311
- 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 3311 – Object-orientated Software Engineering
  prereqs: CSE 1325, CSE 2320, and CSE 3310
- CSE 3313 – 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