BS in Computer Engineering (BSCpE), 2017-2018 Catalog

Pre-Professional Courses

- CSE 1310 Intro to Programming (prerequisite: MATH 1302)
- CSE 1105 Intro to CSE
- ENGR 1300 (Co Req: MATH 1421 or above)
- MATH 1426 Calculus I
- PHYS 1443 Technical Physics I
- ENGL 1301

- CSE 1320 Intermediate Programming (coreq: Math 1421)
- CSE 2100 Practical Systems
- CSE 2441 Digital Logic
- CSE 2320 Algorithms & Data Structures
- MATH 2425 Calculus II
- PHYS 1444 Technical Physics II

- CSE 1325 Object-Oriented Programming
- CSE 2312 Computer Organization
- CSE 2440 Circuits & Signals
- CSE 2441 Digital Logic
- CSE 2440 CSE 2441
- CSE 2442 Embedded II
- CSE 2443 Embedded III

- CSE 3310 Intro to Software Eng.
- CSE 4323 Quan. Computer Arch.
- CSE 4338 Linear Algebra
- CSE 4330 Operating Systems
- IE 3301 Engineering Probability and Stats
- CSE 3310 Intro to Software Eng.

- CSE 3320 Object-Oriented Programming
- CSE 3323 Electronics
- CSE 3325 Embedded I
- CSE 3326 Embedded II
- CSE 3327 Embedded III
- CSE 3328 Embedded IV

- MATH 1426 Calculus I
- MATH 2425 Calculus II
- MATH 3426 Calculus III

- PHYS 1443 Technical Physics I
- PHYS 1444 Technical Physics II

- ENGR 1300 (Co Req: MATH 1421 or above)
- ENGR 1301
- ENGR 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

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 CpE Program Guide.

4000 Level Courses

- CSE 4340 Mobile Systems
- CSE 4342 Embedded Systems II
- CSE 4344 Computer Networks
- CSE 4346 Embedded Systems II
- CSE 4347 Embedded Systems III
- CSE 4348 Embedded Systems IV

- CSE 4360 Robotics
- CSE 4380 Mobile Systems
- CSE 4344 Computer Networks
- CSE 4345 Quan. Computer Arch.

2 Technical Elective courses out of which at least one must be
CSE 4340 Mobile Systems, CSE 4360 Robotics, or CSE 4342 Embedded Systems II.

See list of approved courses in the Computer Engineering Program Guide.
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
- MATH 3303 - Mathematical Game Theory
- MATH 3304 - Linear Optimization Applications
- CSE 3315 - Theoretical Concepts in CSE
- 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 or MATH 3313
- 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 4340 - Mobile Systems Engineering
  prereqs: CSE 3320 and co-requisite CSE 4344
- CSE 4342 – Embedded Systems II
  prereqs: CSE 3442 and coreq CSE 3313
- 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 4352 – IoT and Networking
  prereqs: CSE 3442
- CSE 4354 – Real-time Operating Systems
  prereqs: CSE 3320 and CSE 3442
- CSE 4356 – System on Chip (SoC) Design
  prereqs: CSE 3442
- CSE 4358 – Microprocessor Systems
  prereqs: CSE 3323 (Spring only)
- 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 4383 – Theoretical Concepts in Computer Science & Engineering
  prereqs: CSE 2315
- CSE 4384 – Database Systems and File Structures
  prereqs: CSE 1325 and CSE 2320

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) 2310
- 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