The BS in Computer Engineering (BSCpE) program, 2016-2017 Catalog.

**Pre-Professional Courses**

- CSE 1310: Intro to Programming (prerequisite: MATH 1302)
- CSE 1320: Intermediate Programming (coreq: Math 1421)
- CSE 1325: Object-Oriented Programming
- CSE 2012: Computer Organization
- CSE 2100: Practical Systems
- CSE 2441: Digital Logic
- CSE 2320: Algorithms & Data Structures
- CSE 2315: Discrete Structures

**Core Courses**

- MATH 1426: Calculus I
- PHYS 1443: Technical Physics I
- ENGL 1301

**Math and Science Electives**

- 3 hour Math elective
- 4 hour Science elective

See list of approved courses on second page.

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- 3 hour Math elective
- 4 hour Science elective

See list of approved courses on second page.

Remember to check prerequisites.

**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)

**Professional Courses**

- CSE 2441: Digital Logic
- CSE 2440: Circuit Analysis
- CSE 3314: Professional Practices (PreReq COMS 2302 and CSE 2320/3318)
- ENGR 1300: Intro to CSE
- MATH 1421: Calculus I or above
- MATH 2425: Calculus II
- PHYS 1444: Technical Physics II
- PHYS 1443: Technical Physics I
- ENGL 1301

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

**Math and Science Electives**

- 3 hour Math elective
- 4 hour Science elective

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.
CPE 2016-2017 Classes

Mathematics Electives
- MATH 2326 - Calculus III (Fall, Spring, & Summer)
- CSE 4345 - Computational Methods (Fall & Spring)
- CSE 3315 - Theoretical Concepts in CSE (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 3113 & PHYS 3183 – Intro to Modern Physics (Fall & Spring)

Technical Electives
- CSE 4303 – Computer Graphics
  prereqs: CSE 3290 and CSE 3330 (Fall & Spring)
- CSE 4305 – Compilers
  prereqs: CSE 3320 and CSE 3330 (Fall & Spring)
- CSE 4306 – Artificial Intelligence
  prereqs: CSE 3290 and IE 3301 (Fall, Spring, & Summer)
- CSE 4307 – Fundamentals of Machine Learning
  prereqs: CSE 3290, IE 3301 or MATH 3313, and CSE 3380 or MATH 3330 (Fall only)
- CSE 4310 – Fundamentals of Computer Vision
  prereqs: CSE 3290, IE 3301 or MATH 3313, CSE 3380 or MATH 3330 (Spring only)
- CSE 4321 – Software Testing and Maintenance
  prereqs: CSE 3310 (Fall, Spring, & Summer)
- CSE 4322 – Software Project Management
  prereqs: CSE 3310 (Fall & Spring)
- CSE 4340 – Fundamentals of Wireless Networks
  prereqs: CSE 3440 or CSE 3452 (Fluctuates)
- CSE 4342 – Embedded Systems II
  prereqs: CSE 3442 and coreq CSE 3313 (Fall & Spring)
- CSE 4345 – Computational Methods
  prereqs: CSE 3290, IE 3301 or MATH 3313, and CSE 3380 or MATH 3330 (Fall & Spring)
- CSE 4351 – Parallel Processing
  prereqs: CSE 3320 (Fall & Spring)
- CSE 4352 – IoT and Networking
  prereqs: CSE 3442 (Spring only)
- CSE 4354 – Real-time Operating Systems
  prereqs: CSE 3320 and CSE 3442 (Fall only)
- CSE 4355 – Electromechanical Systems and Sensors
  prereqs: CSE 3323 and CSE 3442 (Fall only)
- CSE 4356 – System on Chip (SoC) Design
  prereqs: CSE 3442 (Fall only)
- CSE 4357 – Advanced Digital Logic Design
  prereqs: CSE 3442 (Spring only)
- CSE 4358 – Microprocessor Systems
  prereqs: CSE 3442 (Spring only)
- CSE 4360 – Autonomous Robot Design and Programming
  prereqs: CSE 2320, CSE 3320, and CSE 3380 or MATH 3330 (Fall only)
- CSE 4372 – RISC Processor Design
  prereqs: CSE 3442 (Spring only)
- CSE 4373 – General Purpose GPU Programming
  prereqs: CSE 3320 (Fall only)
- CSE 4376 – Digital Communication Systems
  prereqs: CSE 3313 (Fall only)
- CSE 4377 – Wireless Communication Systems
  prereqs: CSE 3313 (Spring only)
- CSE 4378 – Intro to Unmanned Vehicles
  prereqs: Department consent (Fall only)
- CSE 4380 – Information Security
  prereqs: CSE 3320 (Fall & Spring)
- CSE 4381 – Information Security 2
  prereqs: CSE 3320 and coreq CSE 4344 (Fall & Spring)
- CSE 4382 – Secure Programming
  prereqs: CSE 3320 (Fall & Spring)
- CSE 4395 – Theoretical Concepts in CSE
  prereqs: CSE 2315 (Fall & Spring)
- CSE 3330 – Database Concepts and File Structures
  prereqs: CSE 1325 and CSE 2320 (Fall, Spring, & Summer)

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
- INTRO TO LGBTQ+ STUDIES (DVR/WOMS) 2315
- ENGLISH (ENGL) 2303, 2309, 2319, 2329
- FRENCH (FREN) 2310, 2314
- GERMAN (GERM) 2310, 2314
- GLOBAL (GLOBAL) 2301
- GREEK (GREK) 2314
- HISTORY (HIST) 2377
- 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 (SOC/INTS) 1310
- SPANISH (SPAN) 2310, 2314, 2315

Creative Arts Electives
- ARCHITECTURE (ARCH) 1301
- ART & ART HISTORY (ART) 1301, 1309, 1310
- DANCE (DANCE) 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