BS in Computer Engineering (BSCpE), 2020-2021 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 2310 Intro to CSE
- CSE 2411 Digital Logic
- CSE 3215 Discrete Structures
- CSE 3318 Algorithms & Data Structures
- CSE 3320 Operating Systems
- CSE 3325 Linear Algebra

Math and Science Electives
- 3 hour Math elective
- 4 hour Science elective

Foreign Language
If required, two semesters of the same language

General Education
- Language/Philosophy/Culture elective
- POLS 2311
- POLS 2312
- Creative Arts elective
- Social/Behavioral (IE 2308 or ECON 2305)
- 6 hours of HIST electives

Math and Science Electives
- 3 Technical Elective courses

See list of approved courses on second page
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.

CSE 2440 Circuit Analysis
CSE 3323 Electronics
CSE 3324 Professional Practices (PreReq COMS 2302 and CSE 3318)

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 2020-2021 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 3313 & PHYS 3183 – Intro to Modern Physics (Fall & Spring)

Technical Electives
You need to complete three tech electives for your degree plan, but you are only allowed to take ONE of the following: CSE 4308, CSE 4309, CSE 4310, CSE 4340, CSE 4360, CSE 4378, and CSE 4380.

- CSE 4308 – Artificial Intelligence
  prereqs: CSE 3318, and CSE 3380 or MATH 3330 (Fall, Spring, & Summer)

- CSE 4309 – Fundamentals of Machine Learning
  prereqs: CSE 3318, IE 3301 or MATH 3313, and CSE 3380 or MATH 3330 (Fall only)

- CSE 4310 - Fundamentals of Computer Vision
  prereqs: CSE 3318, IE 3301 or MATH 3313, CSE 3380 or MATH 3330 (Spring only)

- CSE 4340 – Fundamentals of Wireless Networks
  prereqs: CSE 4344 or CSE 4352 (Fluctuates)

- 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 – Electomechanical 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 3318, 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 Vehicle Systems
  prereqs: Admission to the professional program and permission from an advisor (Fall only)

- CSE 4380 – Information Security
  prereqs: CSE 3320 (Fall and 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
- INTRO TO LGBTQ+ STUDIES (DIVR/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 (SOCI/INTS) 1310
- SPANISH (SPAN) 2310, 2314, 2315

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