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

Pre-Professional Courses

CSE 1310 Intro to Programming (pre-requisite: MATH 1302)
CSE 1320 Intermediate Programming (co-requisite: 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 2325 Discrete Structures
CSE 3315 Intro to CSE
CSE 3310 Intro to Software Eng.
CSE 3380 Intro to Computer Networks
ENGR 1300 Calculus I
MATH 1426 Calculus II
MATH 2425 Calculus II
PHYS 1443 Technical Physics I
PHYS 1444 Technical Physics II
PHYS 1445 Technical Physics III
ENGL 1301
ENGR 1300 (co-requisite MATH 1421 or above)
CSE 3313 Signal Processing
CSE 3314 Professional Practices (pre-requisite ENGL 1301)
CSE 3315 Mobile Systems
CSE 3320 Operating Systems
CSE 3342 Embedded II
CSE 3344 Computer Networks
CSE 3380 Linear Algebra
IE 3301 Engineering Probability and Stats
CSE 3310 Intro to Software Eng.
CSE 3323 Electronics
CSE 3442 Embedded I
COMS 2302 Professional and Tech. Communication (pre-requisite ENGL 1301)
CSE 4323 Quan. Computer Arch.
CSE 4340 Mobile Systems
CSE 4344 Computer Networks
CSE 4342 Embedded II
CSE 4343 Embedded III
CSE 4344 Computer Networks
CSE 4360 Robotics
ENGR 1305 Engineered Materials
PHYS 1443 Technical Physics I
PHYS 1444 Technical Physics II
PHYS 1445 Technical Physics III
ENGL 1301

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 hour Math elective
- 4 hour Science elective

See list of approved courses on second page.

4000 Level Courses

CSE 4316 Senior Design I
CSE 4317 Senior Design II

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 on second page. Remember to check pre-requisites.

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 2017-2018 Classes

Mathematics Electives
- MATH 2326 - Calculus III (Fall, Spring, & Summer) pre-req: MATH 2425
- CSE 4345 - Computational Methods (Fall & Spring) pre-req: CSE 3318, IE 3301 or MATH 3313, and CSE 3380 or MATH 3330
- CSE 3315 - Theoretical Concepts in CSE (Fall & Spring) pre-req: CSE 2315

Science Electives
- BIOL 1441 – Biology I for Science Majors (Fall, Spring, & Summer) pre-req: None
- CHEM 1441 – General Chemistry (Fall, Spring, & Summer) pre-req: MATH 1302
- PHYS 3313 & PHYS 3183 – Intro to Modern Physics (Fall & Spring) pre-req: MATH 2425 and PHYS 1444

Technical Electives
- CSE 4303 – Computer Graphics pre-reqs: CSE 2320 and CSE 3380 or MATH 3330 (Fall & Spring)
- CSE 4305 – Compilers pre-reqs: CSE 3302 and CSE 3315 (Fall & Spring)
- CSE 4308 – Artificial Intelligence pre-reqs: CSE 2320 and IE 3301 (Fall, Spring, & Summer)
- CSE 4309 – Fundamentals of Machine Learning pre-reqs: CSE 2320, IE 3301 or MATH 3313, and CSE 3380 or MATH 3330 (Fall only)
- CSE 4310 – Fundamentals of Computer Vision pre-reqs: CSE 2320, IE 3301 or MATH 3313, CSE 3380 or MATH 3330 (Spring only)
- CSE 4321 – Software Testing and Maintenance pre-reqs: CSE 3310 (Fall, Spring, & Summer)
- CSE 4322 – Software Project Management pre-reqs: CSE 3310 (Fall & Spring)
- CSE 4340 – Fundamentals of Wireless Networks pre-reqs: CSE 4344 or CSE 4352 (Fluctuates)
- CSE 4342 – Embedded Systems II pre-reqs: CSE 3442 and co-req CSE 3313 (Fall & Spring)
- CSE 4345 – Computational Methods pre-reqs: CSE 2320, IE 3301 or MATH 3313, and CSE 3380 or MATH 3330 (Fall & Spring)
- CSE 4351 – Parallel Processing pre-reqs: CSE 3320 (Fall & Spring)
- CSE 4352 – IoT and Networking pre-reqs: CSE 3442 (Spring only)
- CSE 4354 – Real-time Operating Systems pre-reqs: CSE 3320 and CSE 3442 (Fall only)
- CSE 4355 – Electromechanical Systems and Sensors pre-reqs: CSE 3323 and CSE 3442 (Fall only)
- CSE 4356 – System on Chip (SoC) Design pre-reqs: CSE 3442 (Fall only)
- CSE 4357 – Advanced Digital Logic Design pre-reqs: CSE 3442 (Spring only)
- CSE 4358 – Microprocessor Systems pre-reqs: CSE 3442 (Spring only)
- CSE 4360 – Autonomous Robot Design and Programming pre-reqs: CSE 2320, CSE 3320, and CSE 3380 or MATH 3330 (Fall only)
- CSE 4372 – RISC Processor Design pre-reqs: CSE 3442 (Spring only)
- CSE 4373 – General Purpose GPU Programming pre-reqs: CSE 3320 (Fall only)
- CSE 4376 – Digital Communication Systems pre-reqs: CSE 3313 (Fall only)
- CSE 4377 – Wireless Communication Systems pre-reqs: CSE 3313 (Spring only)
- CSE 4378 – Intro to Unmanned Vehicles pre-reqs: Department consent (Fall only)
- CSE 4380 – Information Security pre-reqs: CSE 3320 (Fall & Spring)
- CSE 4381 – Information Security 2 pre-reqs: CSE 3320 and co-req CSE 4344 (Fall & Spring)
- CSE 4382 – Secure Programming pre-reqs: CSE 3320 (Fall & Spring)
- CSE 3315 – Theoretical Concepts in CSE pre-reqs: CSE 2315 (Fall & Spring)
- CSE 3330 – Database Systems and File Structures pre-reqs: 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 LANGUAGE (ASL) 2314
- CHINESE (CHIN) 2310, 2314
- CLASSICS (CLAS) 1300
- INTRO TO LGBTQ+ STUDIES (DIVR) 2315
- ENGLISH (ENGL) 3350, 2303, 2309, 2319, 2329
- FRENCH (FREN) 2310, 2314
- GERMAN (GERM) 2310, 2314
- GLOBAL (GLOBAL) 2301
- GREEK (GREEK) 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) 2310
- SPANISH (SPAN) 2310, 2314, 2315
- WOMEN'S STUDIES (WOMS) 2310, 2315

Creative Arts Electives
- ARCHITECTURE (ARCH) 1301
- ART & ART HISTORY (ART) 1301, 1309, 1310
- DANCE (DANCE) 1300
- ENGLISH (ENGL) 1375
- PHOTO JOURNALISM I (JOUR) 2340
- MUSIC (MUSI) 1300, 1302, 1304, 2300, 2301
- THEATER ARTS (THEA) 1342, 1343

History Electives
- HIST 1301
- HIST 1302
- HIST 1331
- HIST 1332