

BS in Computer Engineering (BSCpE), 2019-2020 Catalog

Pre-Professional Courses

UNIV 1131
(freshman students only)
OR
ENGR 1101
(transfer students)

CSE 1310
Intro to Programming
(pre-requisite: MATH 1302)

CSE 1105
Intro to CSE

ENGR 1250
(co-requisite MATH 1421
or above)

MATH 1426
Calculus I

PHYS 1443
Technical Physics I

ENGL 1301

CSE 1320
Intermediate Programming
(co-requisite: Math 1421)

CSE 2315
Discrete Structures

MATH 2425
Calculus II

PHYS 1444
Technical Physics II

CSE 1325
Object-Oriented
Programming

CSE 2312
Computer Organization

CSE 2100
Practical
Systems

CSE 2441
Digital Logic I

CSE 3318 (2320)
Algorithms & Data
Structures

IE 3301
Engineering Probability
and Stats

CSE 2440
Circuit Analysis

CSE 3323
Electronics

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

pre/co-requisite

pre-requisite

pre-requisite

CSE 3442
Embedded I

CSE 3313
Signal Processing

CSE 3320
Operating Systems

COMS 2302
Professional and Tech.
Communication
(pre-requisite ENGL1301)

CSE 3314
Professional Practices
(pre-requisites
COMS 2302 and CSE 3318)

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

3 Technical Elective courses



See list of approved courses on second page.
Remember to check pre-requisites.

CSE 4323
Quan. Computer
Arch.

CSE 4316
Senior Design I

CSE 4317
Senior Design II

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 2019-2020 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
- CHEM 1465 – Chemistry for Engineers (Fall, Spring, & Summer) co-req: MATH 1421
- PHYS 3313 & PHYS 3183 – Intro to Modern Physics (Fall & Spring) pre-req: MATH 2425 and PHYS 1444

Technical Electives

- CSE 3341 – Digital Logic Design II pre-reqs: CSE 2441 (Fall and Spring)
- CSE 4310 – Fundamentals of Computer Vision pre-reqs: CSE 3318, IE 3301 or MATH 3313, CSE 3380 or MATH 3330 (Spring only)
- CSE 4340 – Fundamentals of Wireless Networks pre-reqs: CSE 4344 or CSE 4352 (Fluctuates)
- 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 4358 – Microprocessor Systems pre-reqs: CSE 3442 (Summer only)
- CSE 4360 – Autonomous Robot Design and Programming pre-reqs: CSE 3318, 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 and CSE 3442 (Spring only)

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) 1350, 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
- WOMEN'S STUDIES (WOMS) 2310, 2315

Creative Arts Electives

- ARCHITECTURE (ARCH) 1301
- ART & ART HISTORY (ART) 1301, 1309, 1310
- DANCE (DNCE) 1300
- ENGLISH (ENGL) 1375
- PHOTOJOURNALISM 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