BS in Computer Science (BSCS), 2018-2019 Catalog

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

See list of approved courses on second page.

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)

Pre-Professional Courses
- UNIV 1131 (freshman students only)
- OR
- ENGR 1101 (transfer students)
- CSE 1320 Intermediate Programming (co-requisite Math 1421)
- CSE 1325 Object-Oriented Programming
- CSE 2330 Databases
- CSE 3302 Programming Languages
- CSE 3315 Theoretical CS
- CSE 3318 (2320) Algorithms & Data Structures
- CSE 3320 Operating Systems
- CSE 3380 Linear Algebra
- CSE 3390 Programming Languages
- CSE 3391 Intro to Software Eng
- CSE 3392 Intro to CSE
- CSE 3393 Intro to Programming

4000 Level Courses
- CSE 4308 Artificial Intelligence
- CSE 4309 Algorithms
- CSE 4310 Operating Systems
- CSE 4311 Theoretical CS
- CSE 4314 Professional Practices (pre-requisites COMS 2302 and CSE 2320/3318)
- CSE 4315 Senior Design I
- CSE 4316 Senior Design II
- CSE 4320 Operating Systems
- CSE 4344 Artificial Intelligence
- CSE 4350 Artificial Intelligence
- CSE 4360 Robotics

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

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 (Fall, Spring, & Summer) pre-req: MATH 2425
- CSE 4345 - Computational Methods (Fall & Spring) pre-reqs: CSE 3318, IE 3301 or MATH 3313, and CSE 3380 or MATH 3330

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 1445 - Chemistry for Engineers (Fall, Spring, & Summer) co-req: MATH 1421
- PHYS 3313 & PHYS 3315 - Intro to Modern Physics (Fall & Spring) pre-req: MATH 2425 and PHYS 1444

Technical Electives
- CSE 4303 - Computer Graphics
  pre-reqs: CSE 3318 and CSE 3380 or MATH 3330 (Fall & Spring)
- CSE 4305 - Compilers
  pre-reqs: CSE 3302 and CSE 3315 (Fall & Spring)
- CSE 4309 - Fundamentals of Machine Learning
  pre-reqs: CSE 3318, IE 3301 or MATH 3313, and CSE 3380 or MATH 3330 (Fall only)
- CSE 4310 - Fundamentals of Computer Vision
  pre-reqs: CSE 3318, 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 4323 - Quantitative Computer Architecture
  pre-reqs: CSE 3320 (Fall & Spring)
- CSE 4331 - Database Implementation and Theory
  pre-reqs: CSE 3330 (Fall, Spring, & Summer)
- CSE 4334 - Data Mining
  pre-reqs: IE 3301 or MATH 3313 and co-req: CSE 3330 (Fall & Spring)
- CSE 4340 - Fundamentals of Wireless Networks
  pre-reqs: CSE 4344 or CSE 4352 (Fluctuates)
- CSE 4345 - Computational Methods
  pre-reqs: CSE 3318, IE 3301 or MATH 3313, and CSE 3380 or MATH 3330 (Fall & Spring)
- CSE 4351 - Parallel Processing
  pre-reqs: CSE 3320 (Fall & Spring)
- CSE 4360 - Autonomous Robot Design and Programming
  pre-reqs: CSE 3318, CSE 3320, and CSE 3380 or MATH 3330 (Fall only)
- CSE 4361 - Software Design Patterns
  pre-reqs: CSE 3311 (Fall & Spring)
- 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-req: Department consent (Fall only)
- CSE 4379 - Unmanned Vehicles Development
  pre-reqs: B or better in CSE 4378 (Spring 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 3311 - Object-orientated Software Engineering
  pre-reqs: CSE 1325, CSE 3318, and CSE 3310 (Fall, Spring, & Summer)
- CSE 3313 - Signal Processing
  pre-reqs: CSE 3318 and CSE 3380 or MATH 3330 (Fall & Spring)
- IE 3315 - Operations Research I
  pre-reqs: co-req MATH 2326 (Fall & Spring)

Language, Philosophy & Culture Electives
- ANTHROPOLOGY (ANTH) 2322
- ARABIC (ARB) 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 (GREEK) 2314
- HISTORY (HIST) 2377
- KOREAN (KORE) 2310, 2314
- LATIN (LATN) 2314
- LINGUISTICS (LING) 2371
- MEXICAN AMERICAN STUDIES (MAS) 2300
- PHILOSOPHY (PHIL) 2304, 2300
- PORTUGUESE (PORT) 2314
- RUSSIAN (RUSS) 2310, 2314
- INTRO TO POPULAR CULTURE (SOC/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 (JOUR) 2340
- MUSIC (MUSI) 1300, 1302, 1304, 2300, 2301
- THEATER ARTS (THEA) 1342, 1343

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