BS in Software Engineering (BSSE), 2020-2021 Catalog

Pre-Professional Courses

- UNIV 1131 (Freshman students only)
- ENGR 1101 (Transfer students)

- CSE 1310 Intro to Programming (prerequisite: MATH 1302)
- CSE 1320 Intermediate Programming (coreq: Math 1421)
- CSE 1325 Object-Oriented Programming
- CSE 2312 Computer Organization
- CSE 2315 Discrete Structures
- CSE 3318 Algorithms & Data Structures
- CSE 3311 Object-Oriented Software Engineering

- CSE 3310 Intro to Software Eng.
- CSE 3315 Theoretical CS
- CSE 3330 Databases
- CSE 3302 Programming Languages
- CSE 3301 Operating Systems
- CSE 3320 Software Design Patterns
- CSE 4321 Software Testing
- CSE 4322 Software Project Management
- CSE 4380 Information Security

- CSE 3314 Professional Practices (PreReq COMS 2302 and CSE 3318)
- CSE 4317 Senior Design II

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 hours of Math electives
- 4 hours of Science electives
See list of approved courses on second page

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Only students who have completed all pre-professional courses satisfactorily and thus are admitted to the professional program may take 4000 level courses.
SE 2020-2021 Classes

Mathematics Electives
- MATH 2326 - Calculus III (Fall, Spring, & Summer)
- CSE 4345 - Computational Methods (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
- CSE 4303 – Computer Graphics
  prereqs: CSE 3318 and CSE 3380 or MATH 3330 (Fall & Spring)
- CSE 4305 – Compilers
  prereqs: CSE 3302 and CSE 3315 (Fall & Spring)
- CSE 4308 – Artificial Intelligence
  prereqs: CSE 3318 and IE 3301 (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 4323 – Quantitative Computer Architecture
  prereqs: CSE 3320 (Fall & Spring)
- CSE 4331 – Database Implementation and Theory
  prereqs: CSE 3330 (Fall, Spring, & Summer)
- CSE 4334 – Datamining
  prereqs: IE 3301 or MATH 3313 and coreq: CSE 3330 (Fall & Spring)
- CSE 4340 – Fundamentals of Wireless Networks
  prereqs: CSE 4344 or CSE 4352 (Fluctuates)
- CSE 4344 – Computer Network Organization
  prereqs: CSE 3320 (Fall, Spring, & Summer)
- CSE 4345 – Computational Methods
  prereqs: CSE 3318, IE 3301 or MATH 3313, and CSE 3380 or MATH 3330 (Fall & Spring)
- CSE 4351 – Parallel Processing
  prereqs: CSE 3320 (Fall & Spring)
- CSE 4360 - Autonomous Robot Design and Programming
  prereqs: CSE 3318, CSE 3320, and CSE 3380 or MATH 3330 (Fall only)
- CSE 4378 – Intro to Unmanned Vehicles
  prereqs: Department consent (Fall only)
- CSE 4381 – Information Security 2
  prereqs: CSE 3320 and coreq CSE 4344 (Fall & Spring)
- CSE 4382 – Secure Programming
  prereqs: CSE 3320 (Fall & Spring)
- CSE 3313 – Signal Processing
  prereqs: CSE 3318 and CSE 3380 or MATH 3330 (Fall & Spring)
- IE 3315 – Operations Research I
  prereqs: coreq MATH 2326 (Fall & Spring)

Language, Philosophy & Culture Electives
- ANTHROPOLOGY (ANTH) 2322
- ARABIC (ARAB) 2310, 2314
- ARCHITECTURE (ARCH) 2300
- ART & ART HISTORY (ART) 1317, 2310, 2314
- American Sign Lang. (ASL) 2314
- CHINESE (CHIN) 2310, 2314
- CLASSICS (CLAS) 1300
- ENGLISH (ENGL) 2303, 2309, 2319, 2329
- FRENCH (FREN) 2310, 2314
- GERMAN (GERM) 2310, 2314
- GLOBAL (GLOBAL) 2301
- GREEK (GREK) 2314
- HISTORY (HIST) 2377
- INTERDISCIPLINARY STUDIES (INTS) 1310
- KOREAN (KORE) 2310, 2314
- LATIN (LATN) 2314
- LINGUISTICS (LING) 2371
- MEXICAN AMERICAN STUDIES (MAS) 2300
- PHILOSOPHY (PHIL) 1304, 2300, 2314
- RUSSIAN (RUSS) 2310, 2314
- SOCIOLOGY (SOCI) 1310
- SPANISH (SPAN) 2310, 2314, 2315
- WOMEN’S & GENDER STUDIES (WOMS) 2310

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