BS in Software Engineering (BSSE), 2021-2022 Catalog

Pre-Professional Courses

- CSE 1310 Intro to Programming (prerequisite: MATH 1302)
- CSE 1106 Intro to CSE
- CSE 1320 Intermediate Programming (coreq: Math 1421)
- CSE 2312 Computer Organization
- CSE 3318 Algorithms & Data Structures
- CSE 3315 Theoretical CS
- MATH 1426 Calculus I
- PHYS 1443 Technical Physics I
- ENGL 1301

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 hour Math elective
- 4 hour Science elective
See list of approved courses on second page

4000 Level Courses

- CSE 4361 Software Design Patterns
- CSE 4321 Software Testing
- CSE 4322 Software Project Management
- CSE 4380 Information Security
- CSE 4316 Senior Design I
- CSE 4317 Senior Design II

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.
### 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, and 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** – Data Mining  
  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
- **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**