BS in Software Engineering (BSSE), 2017-2018 Catalog

Pre-Professional Courses

- CSE 1310 Intro to Programming (prerequisite: MATH 1302)
- CSE 1105 Intro to CSE
- CSE 1320 Intermediate Programming (coreq: Math 1421)
- CSE 2312 Computer Organization
- CSE 2100 Practical Systems
- CSE 2320 Algorithms & Data Structures
- ENGR 1300 (Co Req MATH 1421 or above)
- MATH 1426 Calculus I
- PHYS 1443 Technical Physics I
- CSE 3302 Programming Languages
- CSE 3310 Intro to Software Eng.
- CSE 3320 Operating Systems
- ENGL 1301
- MATH 1426 Calculus I
- PHYS 1444 Technical Physics II

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

Math and Science Electives

- 3 hour Math elective
- 4 hour Science elective

See list of approved courses on second page
Remember to check prerequisites.

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)

3 Technical Elective Courses

See list of approved courses on second page
Remember to check prerequisites.

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-req: 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 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 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 3318, MATH 2326 or the consent of the instructor, 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 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 4344** – Computer Network Organization
  pre-reqs: CSE 3320 (Fall, Spring, & Summer)
- **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 4360** - Autonomous Robot Design and Programming
  pre-reqs: CSE 2320, CSE 3320, and CSE 3380 or MATH 3330 (Fall 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 3313** – Signal Processing
  pre-reqs: CSE 2320 and CSE 3380 or MATH 3330 (Fall & Spring)
- **ENGR 4302** – Engineering Entrepreneurship
  pre-reqs: Admitted to an engineering professional program (Fall only)
- **IE 3315** – Operations Research I
  pre-reqs: co-req MATH 2326 (Fall & Spring)

Language, Philosophy & Culture Electives
- **ANTHROPOLOGY (ANTH) 2322**
- **ARABIC (ARAB) 2310, 2314**
- **ARCHITECTURE (ARCH) 2300**
- **ART & ART HISTORY (ART) 2300**
- **ART & ART HISTORY (ART) 1317**
- **AMERICAN SIGN LANGUAGE (ASL) 2314**
- **CHINESE (CHIN) 2310, 2314**
- **CLASSES (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**