BS in Software Engineering (BSSE), 2016-2017 Catalog

Pre-Professional Courses

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

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

CSE 1325 Object-Oriented Programming

CSE 2100 Practical Systems

CSE 2312 Computer Organization

CSE 2320 Algorithms & Data Structures

CSE 2315 Discrete Structures

CSE 3315 Theoretical CS

CSE 3310 Intro to Software Eng.

CSE 3314 Professional Practices (pre-requisites: COMS 2302 and CSE 2320/3318)

CSE 3320 Operating Systems

CSE 3330 Databases

CSE 3331 Object-Oriented Software Engineering

CSE 3332 Programming Languages

MATH 1426 Calculus I

MATH 2425 Calculus II

PHYS 1443 Technical Physics I

PHYS 1444 Technical Physics II

ENGL 1301

ENGR 1300 (co-requisite MATH 2421 or above)

IE 3301 Engineering Probability and Stats

IE 3302 Professional and Tech. Communication (pre-requisite ENGL 1301)

COMS 2302 Professional and Tech. Communication

CSE 4317 Senior Design II

CSE 4316 Senior Design I

CSE 4361 Software Design Patterns

CSE 4321 Software Testing

CSE 4322 Software Project Management

4000 Level Courses

3 Technical Elective Courses

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

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.

Foreign Language
If required, two semesters of the same language.

Only students who have completed all pre-professional courses satisfactorily and thus are admitted to the professional program may take 4000 level courses.
SE 2016-2017 Classes

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 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 2320, 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** – Datamining
  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)
- **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) 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**