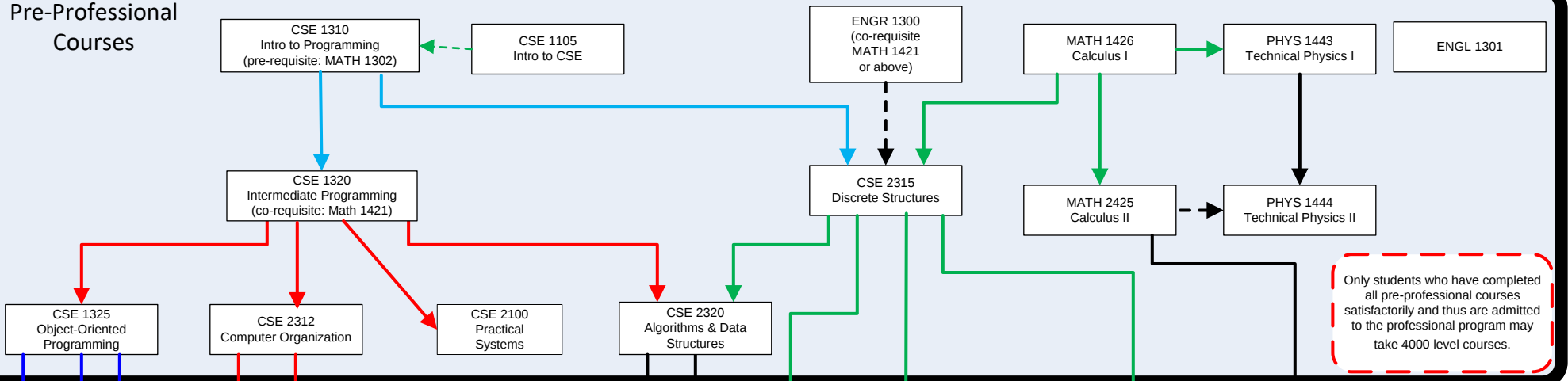


# BS in Computer Science (BSCS), 2016-2017 Catalog

## Pre-Professional Courses



pre/co-requisite

pre-requisite

## Foreign Language

If required, two semesters of the same language.

## General Education

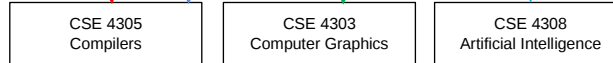
- Language/Philosophy/Culture elective
- HIST 1301
- HIST 1302
- POLS 2311
- POLS 2312
- Creative Arts elective
- Social/Behavioral (IE 2308 or ECON 2305)

## Math and Science Electives

- 3 hour Math elective
- 4 hour Science elective

See list of approved courses on second page.

## 4000 Level Courses



**6 Technical Elective courses** out of which at least one must be CSE 4305 Compilers, CSE 4303 Computer Graphics, or CSE 4308 Artificial Intelligence



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

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.

## CS 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 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 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 – 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 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 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 4378 – Intro to Unmanned Vehicles  
pre-reqs: 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 2320, and CSE 3310 (Fall, Spring, & Summer)
- 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) 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