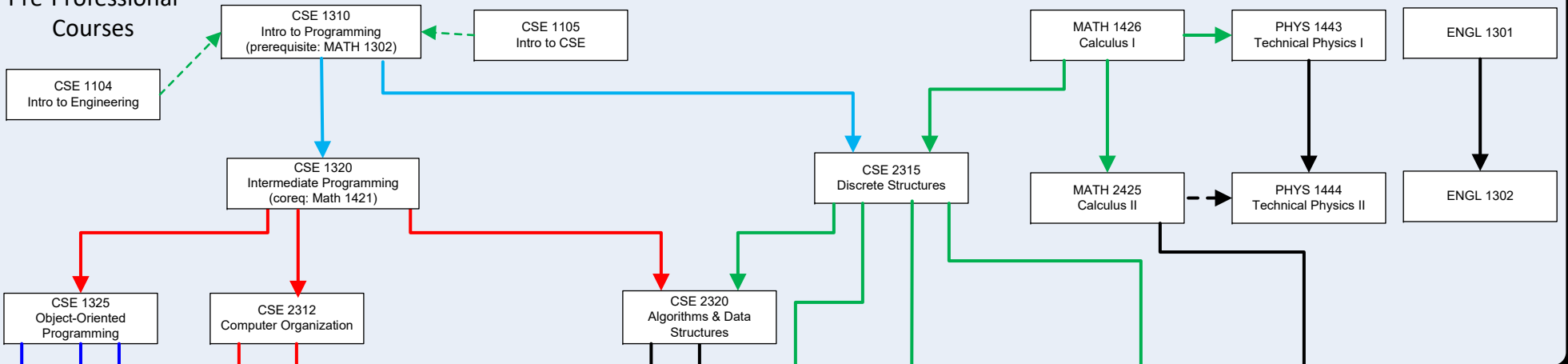


BS in Computer Science (BSCS), 2014-2015 Catalog

Pre-Professional Courses



CSE 1325
Object-Oriented Programming

CSE 2312
Computer Organization

CSE 2320
Algorithms & Data Structures

CSE 2315
Discrete Structures

MATH 2425
Calculus II

PHYS 1444
Technical Physics II

ENGL 1302

CSE 3330
Databases

CSE 3380
Linear Algebra

IE 3301
Engineering Probability and Stats

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

pre/co req
- - - - ->

prerequisite
—————>

CSE 3302
Programming Languages

CSE 3315
Theoretical CS

CSE 3310
Intro to Software Eng.

CSE 3320
Operating Systems

COMS 2302
Professional and Tech. Communication
(PreReq ENGL 1301 and either ENGR 1250 or ENGL 1302)

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 hours of Math electives
- 4 hours of Science electives

See list of approved courses in CS Program Guide.

4000 Level Courses

CSE 4305
Compilers

CSE 4303
Computer Graphics

CSE 4308
Artificial Intelligence

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 in the Computer Science Program Guide. Remember to check prerequisites.

CSE 4344
Computer Networks

CSE 4314
Professional Practices

CSE 4316
Senior Design I

CSE 4317
Senior Design II

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 2014-2015 Classes

Mathematics Electives

- MATH 2326 - Calculus III
- CSE 4345 - Computational Methods

Science Electives

- BIOL 1441 – Cell and Molecular Biology
- CHEM 1441 – General Chemistry
- CHEM 1465 – Chemistry for Engineers

Technical Electives (only one can be 3000 level)

- CSE 4303 – Computer Graphics
prereqs: CSE 2320 and CSE 3380 or MATH 3330
- CSE 4305 – Compilers
prereqs: CSE 3302 and CSE 3315
- CSE 4308 – Artificial Intelligence
prereqs: CSE 2320 and IE 3301
- CSE 4309 – Fundamentals of Machine Learning
prereqs: CSE 2320, IE 3301 or MATH 3313, and CSE 3380 or MATH 3330
- CSE 4310 - Fundamentals of Computer Vision
prereqs: CSE 2320, IE 3301 or MATH 3313, CSE 3380 or MATH 3330 (Spring only)
- CSE 4321 – Software Testing and Maintenance
prereqs: CSE 3310
- CSE 4322 – Software Project Management
prereqs: CSE 3310
- CSE 4323 – Quantitative Computer Architecture
prereqs: CSE 3320
- CSE 4331 – Database Implementation and Theory
prereqs: CSE 3330
- CSE 4334 – Datamining
prereqs: IE 3301 or MATH 3313 and coreq: CSE 3330
- CSE 4340 – Fundamentals of Wireless Networks
prereqs: CSE 4344 or CSE 4352
- CSE 4345 – Computational Methods
prereqs: CSE 2320, IE 3301 or MATH 3313, and CSE 3380 or MATH 3330
- CSE 4351 – Parallel Processing
prereqs: CSE 3320
- CSE 4360 - Autonomous Robot Design and Programming
prereqs: CSE 2320, CSE 3320, and CSE 3380 or MATH 3330 (Fall only)

- CSE 4361 – Software Design Patterns
prereqs: CSE 3311
- CSE 4378 – Intro to Unmanned Vehicles
prereqs: Department consent (Fall only)
- CSE 4380 – Information Security
prereqs: CSE 3320
- CSE 4381 – Information Security 2
prereqs: CSE 3320 and coreq CSE 4344
- CSE 4382 – Secure Programming
prereqs: CSE 3320
- CSE 3311 – Object-orientated Software Engineering
prereqs: CSE 1325, CSE 2320, and CSE 3310
- CSE 3313 – Signal Processing
prereqs: CSE 2320 and CSE 3380 or MATH 3330
- IE 3315 – Operations Research I
prereqs: coreq MATH 2326

Language, Philosophy & Culture

- ANTHROPOLOGY (ANTH) 2322
- ARABIC (ARAB) 2310, 2314
- ARCHITECTURE (ARCH) 2300
- ART & ART HISTORY (ART) 1317
- 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
- PORTUGUESE (PORT) 2314
- RUSSIAN (RUSS) 2310, 2314
- SOCIOLOGY (SOCI) 1310
- SPANISH (SPAN) 2310, 2314

Creative Arts Electives

- ARCHITECTURE (ARCH) 1301
- ART & ART HISTORY (ART) 1301, 1309, 1310
- DANCE (DNCE) 1300
- MUSIC (MUSI) 1300, 1302, 2300, 2301
- THEATER ARTS (THEA) 1342, 1343