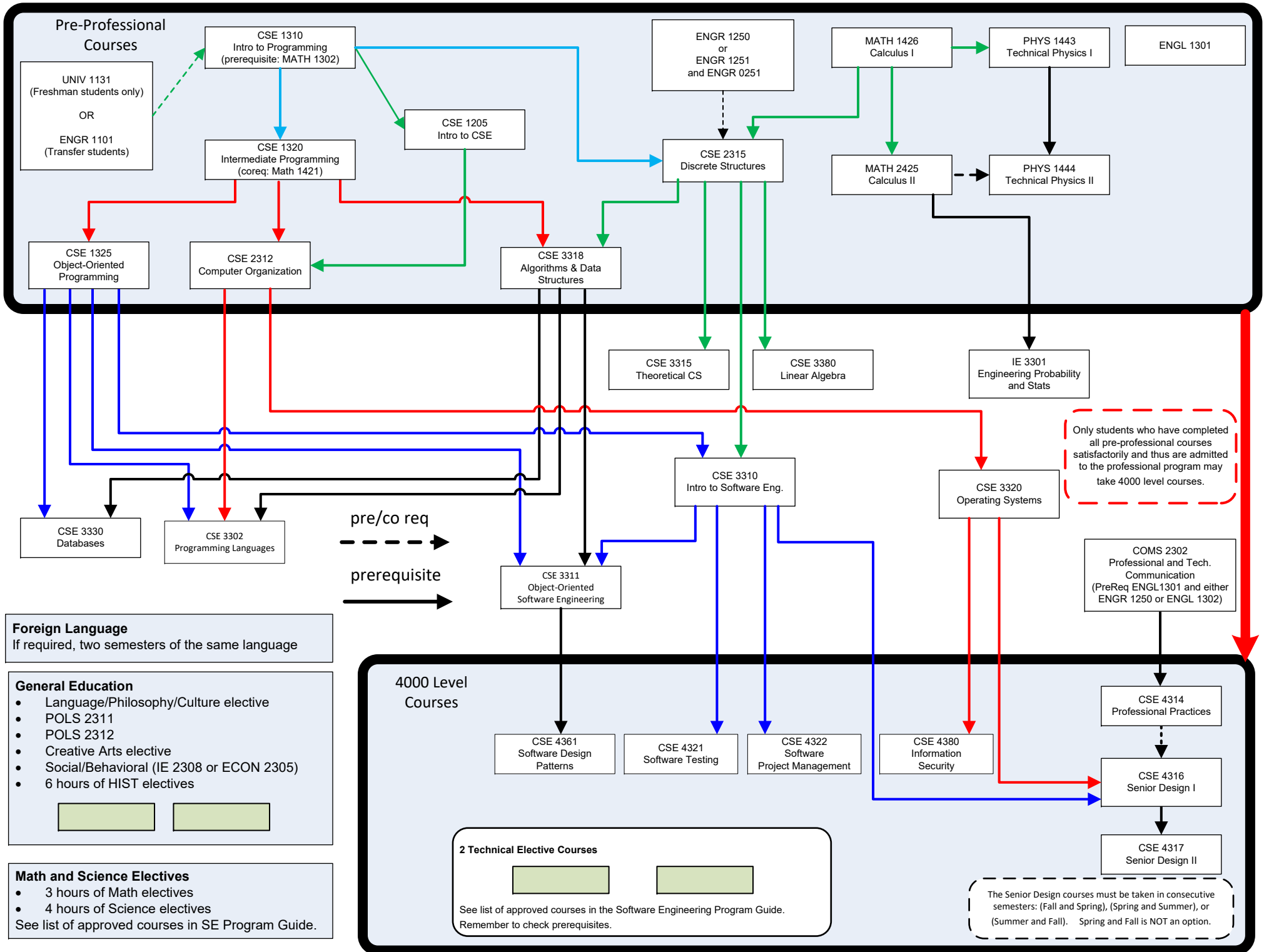


BS in Software Engineering (BSSE), 2020-2021 Catalog



Pre-Professional Courses

UNIV 1131
(Freshman students only)
OR
ENGR 1101
(Transfer students)

CSE 1310
Intro to Programming
(prerequisite: MATH 1302)

CSE 1320
Intermediate Programming
(coreq: Math 1421)

CSE 1205
Intro to CSE

ENGR 1250
or
ENGR 1251
and ENGR 0251

MATH 1426
Calculus I

PHYS 1443
Technical Physics I

ENGL 1301

MATH 2425
Calculus II

PHYS 1444
Technical Physics II

CSE 1325
Object-Oriented
Programming

CSE 2312
Computer Organization

CSE 3318
Algorithms & Data
Structures

CSE 3315
Theoretical CS

CSE 3380
Linear Algebra

IE 3301
Engineering Probability
and Stats

CSE 3330
Databases

CSE 3302
Programming Languages

pre/co req
----->
prerequisite
----->

CSE 3311
Object-Oriented
Software Engineering

CSE 3310
Intro to Software Eng.

CSE 3320
Operating Systems

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

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
- POLS 2311
- POLS 2312
- Creative Arts elective
- Social/Behavioral (IE 2308 or ECON 2305)
- 6 hours of HIST electives

Math and Science Electives

- 3 hours of Math electives
- 4 hours of Science electives

See list of approved courses in SE Program Guide.

4000 Level Courses

CSE 4361
Software Design
Patterns

CSE 4321
Software Testing

CSE 4322
Software
Project Management

CSE 4380
Information
Security

CSE 4314
Professional Practices

CSE 4316
Senior Design I

CSE 4317
Senior Design II

2 Technical Elective Courses

See list of approved courses in the Software Engineering Program Guide.
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.

SE 2020-2021 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
- PHYS 3313 + PHYS 3188 – Intro to Modern Physics with lab

Technical Electives

- CSE 4303 – Computer Graphics
prereqs: CSE 3318 and CSE 3380 or MATH 3330
- CSE 4305 – Compilers
prereqs: CSE 3302 and CSE 3315
- CSE 4308 – Artificial Intelligence
prereqs: CSE 3318 and IE 3301
- CSE 4309 – Fundamentals of Machine Learning
prereqs: CSE 3318, IE 3301 or MATH 3313, and CSE 3380 or MATH 3330
- CSE 4310 - Fundamentals of Computer Vision
prereqs: CSE 3318, IE 3301 or MATH 3313, CSE 3380 or MATH 3330 (Spring only)
- 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 4344 – Computer Network Organization
prereqs: CSE 3320
- CSE 4345 – Computational Methods
prereqs: CSE 3318, 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 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
- CSE 4382 – Secure Programming
prereqs: CSE 3320
- CSE 3313 – Signal Processing
prereqs: CSE 3318 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

History Electives

- HIST 1301
- HIST 1302
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