

Pre-Professional Courses

UNIV 1131 (freshman students only)
OR
ENGR 1101 (transfer students)

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

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

CSE 1106 Intro to CSE

MATH 1426 Calculus I

PHYS 1443 Technical Physics I

ENGL 1301

CSE 1325 Object-Oriented Programming

CSE 2312 Computer Organization

CSE 3318 Algorithms & Data Structures

MATH 2425 Calculus II

PHYS 1444 Technical Physics II

CSE 2315 Discrete Structures

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

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 Elective

- 3 hour Math elective

See list of approved courses on second page.

4000 Level Courses

CSE 3330 Databases

CSE 3302 Programming Languages

CSE 3315 Theoretical CS

CSE 3380 Linear Algebra

CSE 3310 Intro to Software Eng.

CSE 3320 Operating Systems

CSE 3334 Professional Practices (pre-requisites COMS 2302 and CSE 3318)

CSE 3301 Engineering Probability and Stats

CSE 3316 Senior Design I

CSE 4305 Compilers

CSE 4303 Computer Graphics

CSE 4360 Robotics (Fall only)

CSE 4308 Artificial Intelligence

CSE 4344 Computer Networks

CSE 4380 Information Security

CSE 4381 Information Security 2

CSE 4382 Secure Programming

Security Elective

Complete **ONE** of the following three security courses.
CSE 3320 is a pre-requisite for all three courses.

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 2021-2022 Classes

Each course taken can be used to satisfy only one degree plan requirement. For example, you can CSE 4380 as your security elective, but it will not also count as a technical elective. If you take CSE 4380 and CSE 4381, CSE 4380 can satisfy your security elective and CSE 4381 can count as a technical elective.

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

Technical Electives

- CSE 4303 – Computer Graphics
pre-reqs: CSE 3318 and CSE 3380 or MATH 3330 (Fall & Spring)
- CSE 4305 – Compilers
pre-reqs: CSE 3302 and CSE 3315 (Fall & Spring)
- 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 3318, 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 3318, 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 3318, 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 3318, and CSE 3310 (Fall, Spring, & Summer)
- CSE 3313 – Signal Processing
pre-reqs: CSE 3318 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