OPTIONS FOR SOFTWARE ENGINEERING MAJOR GUIDED ELECTIVES
(2022-2023)

SE students following the 2004 and later catalogs must complete ONE APPLICATION DOMAIN which consists of 3 courses as specified per group. Please see the Application Domain Information sheet for course groupings. The following courses are choices for the remaining SE Guided Elective.

Guided Elective Option	Pre-Requisite Course
CS 4301 Special Topics in Computer Science	CE/CS/SE/TE 3345
CS 4314 Intelligent Systems Analysis	CGS 4313 or consent of Instructor
CS 4315 Intelligent Systems Design	CGS 4313 or consent of Instructor
CS 4332 Introduction to Programming Video Games	CE/CS/SE/TE 3345
CS 4334 Numerical Analysis	(Math 2370 or CE/CS 1337) and Math 2418, Math 2451
CS 4336 Advanced JAVA	CE/CS 2336 or Equivalent
CS 4337 Organization of Programming Languages	CE/CS 2336 with a C or better, CE/CS 2305 with a C or better, and CS/SE 3340
CS 4341 and CS 4141 Digital Logic and Computer Design and Lab	CE/EE 2310 or CS/SE 3340, PHYS 2326
CS 4349 Advanced Algorithm Design and Analysis	CS 3305 with a C or better, CE/CS 3345
CS 4352 Human Computer Interactions I	None
CS 4353 Human Computer Interactions II	CS 4325
CS 4361 Computer Graphics	Math 2418, CE/CS 2336, and CE/CS/SE/TE 3345 or Equivalent
CS 4365 Artificial Intelligence	CE/CS/SE/TE 3345 or Equivalent
CS 4375 Introduction to Machine Learning	CS/SE 3341 and CE/CS/SE/TE 3345 or Equivalent
CS/SE 4376 Object Oriented Programming Systems	CE/CS 2336 with a C or better or Equivalent
CS 4384 Automata Theory	CS 3305 with a C or better
CS 4386 Compiler Design	CE/CS/SE/TE 3345 or Equivalent
CS 4389 Data & Applications Security	CS/SE 4347
CS 4390 Computer Networks	CE/CS/SE/TE 3345 or Equivalent
CS 4391 Intro to Computer Vision	CE/CS/SE/TE 3345 or Equivalent
CS 4392 Computer Animation	Math 2418 and CE/CS/SE/TE 3345 or Equivalent
CS 4393 Computer and Network Security	CE/CS/SE/TE 4348 or Equivalent
CS 4394 Implementation of Modern Operating Systems	CE/CS/SE/TE 4348 and CS 3335 or Equivalent Programming experience
CS 4395 Human Language Technologies	CS/SE 3341 and CE/CS/SE/TE 3345 or Equivalent
CS 4396 Networking Laboratory	CS 4390 or Equivalent
CS 4397 Embedded Computer Systems	CE/CS/SE/TE 4348 or Equivalent
CS 4398 Digital Forensics	CE/CS/SE/TE 4348 and CE/CS/TE 4390 or Equivalent
CS 4V95 Undergraduate Topics in Computer Science	Varies by course topic
EE 4325 Introduction to VLSI Design	CS 4341

Revision Date: 5/10/22

Students may also use SE 4V98 Undergraduate Research in Software Engineering or SE 4399 Senior Honors in Software Engineering. Students must consult an Academic Advisor before registering in these options.