COMPUTER ENGINEERING DEPARTMENTAL ELECTIVES LIST

2018 – 2019

Successful completion of all prerequisite courses required as well as a minimum 2.5 TTU GPA.

ECE 3306 – Electric Circuits II (ECE 3302)
ECE 3312 – Electronics II (ECE 3311 & ECE 3303)
ECE 3323 – Principles of Communication Systems (ECE 3303; MATH 3342 or IE 3341; MATH 3350)
ECE 3342 – Electromagnetic Theory II (ECE 3341 & MATH 3351)
ECE 3353 – Feedback Control Systems (ECE 3303 & MATH 3350)
*ECE 4310 – Introduction to VLSI Design (ECE 3311)
ECE 4314 – Solid State Devices (ECE 3312, ECE 3341, & CHEM 1307)
ECE 4316 – Power Electronics (ECE 3312, ECE 3323, & ECE 3353)
ECE 4321 – Applications of Analog Integrated Circuits (ECE 3312, ECE 3323, & ECE 3353)
ECE 4323 – Modern Communication Circuits (ECE 3312 & ECE 3323)
*ECE 4325 – Telecommunication Networks (ECE 3304 or ECE 3323)
ECE 4331 – Individual Studies in Electrical Engineering **(instructor consent) (may NOT be repeated for credit)**
ECE 4332 – Topics in Electrical Engineering **(may be repeated for credit)**
ECE 4340 – Power System Analysis (ECE 3306)
ECE 4341 – Microwave Engineering (ECE 3342)
ECE 4342 – Microwave Solid-State Circuits (ECE 3312)
ECE 4343 – Introduction to Power Systems (ECE 3341)
ECE 4344 – Antennas and Radiating Systems (ECE 3342)
ECE 4349 – Modern Radar Circuits and Systems (ECE 3341)
ECE 4354 – Power Semiconductor Devices (ECE 4314)
ECE 4360 – Fiber Optic Systems (ECE 3312, ECE 3323, ECE 3341, & CHEM 1307)
ECE 4362 – Modern Optics for Engineering (ECE 3323 & ECE 3342)
*ECE 4363 – Pattern Recognition (MATH 3342, MATH 3350, ECE 3303, & ECE 3304 or ECE 3323) **(TTU GPA >=3.0; B or better in ECE 3303, MATH 3342, & MATH 3350)**
*ECE 4364 – Digital Signal Processing (ECE 3304)
ECE 4365 – Parametric Device Testing (ECE 3332 & MATH 3342 or IE 3341)
ECE 4366 – Testing of Digital Systems (ECE 3332 & MATH 3342 or IE 3341)
*ECE 4367 – Image Processing (MATH 3342, MATH 3350, ECE 3303 & ECE 3304 or ECE 3323) **(TTU GPA >=3.0; B or better in ECE 3303, MATH 3342, & MATH 3350)**
ECE 4377 – Technology Startup Laboratory (ECE 3333 or ECE 3334)
ECE 4378 – Solar Energy (ECE 3333 or ECE 3334)
*ECE 4380 – Embedded Systems (ECE 3362 or CS 2350 & ECE 3304 or ECE 3323)
ECE 4381 – VLSI Processing (ECE 3311, PHYS 2401 & MATH 3350)
*ECE 4382 – Digital IC Analysis and Design (ECE 3312 & ECE 3362)
ECE 4385 – Introduction to Microsystems I (ECE 3303 & ECE 3311)
ECE 4386 – Introduction to Microsystems II (ECE 4385)
ECE 4391 – Electric Machines and Drives (ECE 3341)

*** - Approved ECE/CS short electives list** **5.25.18 jmm**

COMPUTER SCIENCE DEPARTMENTAL ELECTIVES LIST

2018 - 2019

Successful completion of all prerequisite courses required.

CS 3352 – Introduction to Systems Programming (CS 2350 or ECE 3362 & CS 2413)
*CS 3361 – Concepts of Programming Languages (CS 2413)
*CS 3364 – Design and Analysis of Algorithms (CS 1382, CS 2413, & MATH 2360)
*CS 3365 – Software Engineering I (CS 2365, CS 2413 & MATH 3342)
CS 3366 – Human Computer Interaction (CS 2413)
*CS 3368 – Introduction to Artificial Intelligence (CS 1382)
CS 3375 – Computer Architecture (CS 2350 or ECE 3362)
*CS 3383 – Theory of Automata (CS 1382)
CS 4000 – Individual Studies in Computer Science (V1-6) **(advanced standing/departmental approval) (may be repeated for credit)**
CS 4328 – Scientific Computing (CS 2413 & MATH 1452)
CS 4331 – Special Topics in Computer Science (CS 3375) **(advanced standing)**
*CS 4352 – Operating Systems (CS 3364 & CS 3375)
*CS 4354 – Concepts of Database Systems (CS 3364)
*CS 4365 – Software Engineering II (CS 3365)
CS 4379 – Parallel and Concurrent Programming (CS 3364 & CS 3375)
CS 4380 – Embedded Systems
CS 4391 – Special Topics in AI **(senior standing)**
CS 4392 – Computer Networks (CS 2413)
*CS 4395 – Introduction to Computer Graphics (CS 3364)
CS 4397 – Computer Game Design and Development (CS 3364)
CS 4398 – Theory and Practice of Logic Programming (CS 1382 & CS 2413)

*** - Approved ECE/CS short electives list** **5.25.18 jmm**