Technical Electives for BSEE

Group I: Electrical Engineering Technical Electives: An Electrical Engineering student is required to take two courses from **Group I**.

Course No.	Course Title	Cr	Pre- and Co-requisites
ECE 47800	Robotics and Automation	3	ECE 36200, ME 25300, CS 22900, MA 36300
ECE 46500	Embedded Microprocessors	3	P: ECE 36200
ECE 47400	Introduction to RF Circuit Design	3	P: PHYS 25100, ECE 25500
ECE 48300	Digital Control Systems Analysis and Design	3	P: ECE 30100 or ME 33300
ECE 54700	Introduction to Computer Comm. Network	3	P: ECE 30200

All Electrical Engineering Technical Electives have design content. ECE 49500 can be counted as a Group I technical elective upon the approval by the EE curriculum committee. Other ECE 5xx courses may be included in this group upon the approval by the EE curriculum committee. A course cannot be counted toward both an undergraduate degree and a graduate degree.

Group II: Other Technical Electives: An Electrical Engineering student is required to take two courses from **Group II**.

Course No.	Course Title	Cr	Pre- and Co-requisites
ECE 29300	Measurements and Instrumentation	2	P: ECE 20100, COM 11400, ENGL 13100
ECE 35800	Introduction to VHDL	3	P: ECE 27000, CS 22900
ECE 36800	Data Structures	3	P: CS 22900
ECE 43700	Computer Design and Prototyping	4	P: ECE 35800, ECE 36200
ECE 48500	Embedded Real-Time Operating Sys.	4	P: ECE 36200, ECE 36800
SE 52000* **or** SE 54000*	Engineering Economics or System Architecture	3	P: Senior or graduate standing
SE 53000** **or** SE 55000**	Engineering Management or Advanced Manufacturing Systems & Processes	3	P: Senior or graduate standing
CS 32100	Computer Graphics	3	P: CS Department approval
CS 36000	Software Engineering	4	P: CS Department approval
MA 17500***	Introductory Discrete Math	3	P: MA 16500 or MA 15300 and CS 16000; or MA 15300 and EET 26400 with grade of C or better in each course
MA 27500***	Intermediate Discrete Math	3	P: MA 26100
MA 41700+	Mathematical Programming	3	P: MA 26100 or MA 26300, and one of: MA 26200, MA 35100, or MA 51100 with grade of C- or better
PHYS 32200	Optics	3	P: PHYS 25100
PHYS 34200	Modern Physics	3	P: PHYS 25100

*Either SE 52000 or SE 54000, but not both, can be used as a Group II technical elective.
** Either SE 53000 or SE 55000, but not both, can be used as a Group II technical elective.
*** Either MA 17500 or MA 27500, but not both, can be used as a Group II technical elective course.
+Any 500 level math course can replace MA 41700 when this course is not offered.
++ECE 49600, ECE 49700, and ECE 49800 can be counted as Group II technical electives, with the maximum of 3 credit hours each, upon the approval by the EE curriculum committee. A student with a major in Electrical Engineering who takes either MA 17500/27500 or MA 41700 can earn a minor in Mathematics. A student with a major in Electrical Engineering who takes both PHYS 32200 and PHYS 34200 can earn a minor in Physics.

Revised: October 23, 2017
Effective Date: Fall 2018