Special Content Courses for the BSEE

In general, seminars, survey courses, project courses, special topic course, and informal laboratory courses are considered to be Special Content Courses. A complete list of these courses, as approved by the EE curriculum committee, is given below.

ECE 49500	Selected Topics in Electrical Engineering	Cr. 1-4
ECE 49600	Electrical Engineering Projects	Cr. 1-15
ECE 49700	Research in Electrical Engineering I	Cr. 3
ECE 49800	Research in Electrical Engineering II	Cr. 3

The following restrictions apply to all Special Content Courses:

- No more than a combined total of 9 credit hours may be used to satisfy the EE degree requirement.
- A maximum of 3 credit hours of ECE 49500 can be counted as Group I technical electives for EE program.
- A combined total of no more than 6 credit hours of ECE 49600, ECE 49700, and ECE 49800 can be counted as Group II technical electives for the EE program.

The procedure for offering a Special Content Course is outlined below:

- The proposal for offering the course in a semester must be submitted to the Chair of the EE Curriculum Committee three weeks before the end of the previous semester. The course proposal is simply the course syllabus which includes the following information: Course/Project title, Course/Project description, Number of credit hours, Semester, Design content, Topics Covered, and Name of instructor.
- If the course is to be counted toward the EE degree program (i.e., as a technical elective), the proposal must also be approved by the EE curriculum committee before the course is offered.
- The instructor is required to submit a written report to the Department of Engineering, at the end of the semester, at the same time the course grade is submitted. The format and length of the report is at the discretion of the instructor, but at a minimum it should include the course syllabus and a summary of the results.

Approved: November 18, 2013
Revised: January 2018
Effective: Fall 2018

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