BSEE Advanced Elective and Laboratory Approval Form
Return Completed Form to: 2304a Engineering Hall

Student Name: _____ Campus ID Number: _____

Advanced Electives: Choose EE advanced elective courses to provide at least 19 credits. Normally, courses are chosen from the table on the reverse side of this form. The courses you choose must satisfy the following conditions:

1) There must be at least one course from three of the six groups listed on the next page. Please note that ECE 321, 354, 376, and 377 are excluded from this list. (ECE/CS 354 may be used as part of the Science Requirement).
2) At least 9 degree credits must be in courses numbered 400 and above.
3) A capstone design course (i.e., a course with at least 2 or more design credits) must be taken. Capstone courses are designated on the next page. ECE 399 (Independent Study), ECE 699 (Advanced Independent Study), and ECE 489 (Honors in Research) may **not** be used to satisfy this requirement; however, ECE 491 (Senior Design Project) may be used.
4) The total number of design credits must be at least 6.5.
5) At least 15 of the 19 degree credits must be taken at UW-Madison.

A course not appearing in the table is admissible only under the following rules:

1) You may use at most one degree credit from ECE 301-317. No design credit is earned in this case.
2) You may apply credits in ECE 379, 601, and 602 (Special Topics in Electrical and Computer Engineering) toward advanced electives. These credits may be used toward your degree, even if more than one course is taken with the same numerical designation (except when course content is repeated.) For example, ECE 601 may be taken more than once, as long as the subject matter in the course is different each time.
3) If your cumulative GPA is at least 2.5, you may register for ECE 399 and/or ECE 699 and apply up to 6 degree credits toward the EE advanced elective requirement. The faculty member supervising the Independent Study course assigns design credits. (You must submit an Application for Independent Study Credit, applications available in 2304a EH or on the ECE Website, prior to the semester in which the course is taken.)
4) If your cumulative GPA is at least 3.5, you may register for ECE 489 (Honors in Research) and apply up to 6 degree credits toward the requirement. In this case, the faculty member supervising the course assigns design credits. (You must submit an Application for Independent Study Credit, applications available in 2304a EH or on the ECE Website, prior to the semester in which the course is taken.)
5) If your cumulative GPA is at least 2.5, you may register for ECE 491 and apply 3 degree credits and 2 design credits toward the requirement. (You must submit an Application for Independent Study Credit, applications available in 2304a EH or on the ECE Website, prior to the semester in which the course is taken.)
6) You may use one degree credit of ECE 001 (Cooperative Education Program). No design credit is earned in this case.
7) EE student pursuing a Certificate in Japanese Studies earn three credits of undesignated advanced electives for successful completion of EPD 375 (Intermediate Technical Japanese II).
8) You may apply other courses to this category only with the approval of your faculty advisor. These courses must have a clear pertinence to your selection of advanced courses in ECE. Substitute courses are assigned no design credit.

Laboratories: First, choose one course numbered ECE 301-317. Then choose a second course from the same list, or use one credit of an advanced lab ECE 409, 432, 438, 453, 468, 504, 512, 545, 549, 554, or 577. If you apply one credit of an advanced lab toward this requirement, you may still apply all design credits associated with the lab toward the EE advanced elective requirement.

Advanced Elective	Degree Credits	Design Credits	400+ Credits	Group Number	Capstone Course (course with 2 or more design credits)
Total					
Minimum	19 credits	6.5 design credits	9 credits	3 groups	1 capstone course

Laboratory	Degree Credits
	1
	1

Faculty Advisor Name: _____

Faculty Advisor Signature: _____ Date: _____

Revised: 05/02/2011

Electrical Engineering Advanced Electives

Group 2: Fields and Waves	Degree Credits	Design Credits	Capstone Course?
420	3	1	
434	3	1	
440	3	1	
444	3	1	
525	3	0.5	
527	3	0.5	
528	3	1	
536	3	1	
546	2-3	1	
547	3	2	Yes
561	3	0	
562	3	0.5	

Group 3: Systems and Control	Degree Credits	Design Credits	Capstone Course?
332	3	1	
334	3	1	
409	4	3	Yes
415	3	1	
417	3	1	
439	3	2	Yes
461	3	1	
520	3	0	
577	4	3	Yes

Group 4: Power and Machines	Degree Credits	Design Credits	Capstone Course?
355	3	1	
356	3	1	
411	3	1	
412	3	2	Yes
427	3	1	
504	2-3	1	
511	3	1	
512	3	2	Yes

Group 5: Communications and Signal Processing	Degree Credits	Design Credits	Capstone Course?
331	3	1	
431	3	2	Yes
432	3	2	Yes
435	3	0	
436	3	2	Yes
437	3	2	Yes
438	1	1	
447	3	2	Yes
455	3	2	Yes
531	3	2	Yes
532	3	2	Yes
533	3	2	Yes
534	3	1	
535	3	1	
537	3	2	Yes
539	3	2	Yes
641	3	0	

Group 6: Circuits and Devices	Degree Credits	Design Credits	Capstone Course?
342	3	1	
401	3	1	
445	3	1	
462	3	2	Yes
466	3	0.5	
541	3	2	Yes
542	3	2	Yes
543	3	3	Yes
544	3	0	
545	3	2	Yes
548	3	2	Yes
549	3	2	Yes
555	3	2	Yes

Group 7: Computers and Computing	Degree Credits	Design Credits	Capstone Course?
353	3	1.5	
CS 367	3	0	
453	4	3	Yes
463	3	1	
468	4	3	Yes
551	3	2	Yes
552	3	1.5	
553	3	2	Yes
554	4	3	Yes
556	3	2.5	Yes