

Integrated BSEE / MSE Program for UT Austin ECE Students

Advising Notes, Version 1.1 4/10/2014

The proposed Integrated BSEE / MSE program is currently in the final stages of the approval process. All UT Austin Faculty Governance groups have been consulted and the proposal has been approved by them. The proposal has been forwarded to the Provost and President Powers for subsequent submission to the Texas Higher Education Coordinating Board. We hope to receive final approval sometime during the summer of 2014. Until then it has to be considered a proposed program that remains under review by the appropriate cognizant entities.

These Advising Notes constitute the first draft of a policy and procedure document for the Integrated BSEE / MSE program. They are our best estimate of the requirements at this time (Spring 2014) and should be considered “under construction”. Be alert for additions and alterations as we all forge through establishing the program and reaching some form of steady-state system over the next Academic Year. Please recognize that the disruption surrounding the new building construction will negatively affect the smooth functioning of both the ECE Undergraduate and Graduate Offices. It is our firm intent that participating in the Integrated Program be minimally perturbing to ECE students. We will make every effort to make the application process as painless as possible.

A. Program Description.

The ECE department has established an integrated degree program that results in simultaneously awarding a *Bachelor of Science in Electrical Engineering: Integrated Option*, and any one of the department’s current *Master of Science in Engineering* degree pathways. The three options in the *MSE* program — all require 30 semester credit hours (SCH) of graduate coursework — are: 1) the Coursework option (10 courses, at least 2 “supporting work”), 2) the Report option (9 courses and EE 398R Report), and 3) the Thesis option (8 courses plus EE 398A and 398B). Undergraduate students in the ECE department apply for the program during their junior year, ideally after one semester of Major Sequence coursework (*i.e.* near the end of the first semester in Major Sequence). However, students already in Major Sequence can apply up until their last semester in the BSEE degree pathway. **Please note:** Conditional Admission to Major sequence is not sufficient to enter this program. If accepted, a student in the integrated program would begin taking graduate courses as a senior. The BSEE and MS degrees will be awarded simultaneously when the student has completed the requirements of both programs.

1. Program Objectives.

The goal of the Integrated BS/MS in ECE is to enable talented and high-performing undergraduate students to earn the combination of the BS and MS degrees in less time. The Integrated Program will provide a fast-track admission process for existing undergraduate

students into our existing graduate program. By allowing undergraduate students to begin their graduate studies within their senior year of undergraduate study, the program enables them to complete the requirements for both degrees more quickly than can be achieved by completing them sequentially. Ultimately, this will allow the ECE department to expose larger numbers of our student population to current research in the wide fields covered by the ECE department, preparing them for both advanced positions in industry and admission to top Ph.D. programs around the country.

2. Interface Between the BSEE and MSE Degrees: How It Will Work.

Students accepted into this program will be relieved of 5 SCH in the regular BSEE degree: the BSEE portion of the coursework must total at least 120 SCH as opposed to the usual minimum 125 SCH requirement. Students in the Integrated Program will normally complete 2 graduate level courses (*i.e.* reserved for graduate credit) in place of two of the Primary Core Electives in the Graduate Track that is most closely aligned with the Primary Core selection. There are 9 Graduate Tracks in the ECE MSE degree. **The advice of faculty in the Graduate Track should be sought regarding course selection.** The MSE portion of the Integrated Program consists of 30 SCH, and that portion is unchanged. The total SCH for the integrated degrees is therefore a minimum of 150. The degrees are awarded simultaneously at the completion of the entire program.

3. Who Should Apply.

High-performing students who would like to investigate graduate education to enhance their competitiveness, and who may apply for PhD study. Please note that a GPA of 3.0 is sufficient at UT Austin to register for graduate coursework that either may be used to satisfy Baccalaureate requirements, or may be reserved for subsequent graduate credit. **However, a GPA lower than approximately 3.5 will, on average, not be persuasive to be admitted to the MSE program in ECE.** Refer to the description of the Admission Processes below.

B. Admission to the Integrated Program.

Admission to the Integrated BS/MS in ECE will occur in two stages. The first stage, ideally performed in the spring of the student's junior year (*i.e.* after 1 semester of Major Sequence work), will qualify the student to begin to take graduate courses to contribute to the completion of the MS portion of the degree. The second stage, completed during the student's senior year and after the student has completed at least one graduate course will include application to the Graduate School for the MSE degree.

1. Admission, Stage 1.

Current ECE students may apply to the Integrated BS/MS in ECE during at the completion of their first semester in Major Sequence. The application deadline is the last day of classes of that semester. Students who apply in the spring semester and are admitted can begin taking

graduate courses in the following fall semester, for example. All application materials are available both online and through the Graduate Advising Office.

Applicants to the program must be current ECE undergraduate students in good standing. Applicants should have completed all of the basic sequence courses and at least 10 credit hours of the primary technical core. Successful applicants will also be completing (in the spring semester) additional technical core requirements. To maximize the likelihood of completing the integrated degree in a reduced amount of time, we recommend that students who apply be within 25 credit hours of completing all of the requirements for the BSEE degree. To apply, students must have a minimum 3.0 cumulative GPA; to be competitive, applicants should usually have a minimum 3.5 ECE GPA. Applicants must specify an academic track when they apply; applicants may also specify a second choice track. The technical track specified for graduate study does not have to align with the student's undergraduate technical core choices, though the student's undergraduate study should prepare him or her for study in the track for which he or she applies.

The ECE department will convene an Integrated BS/MS Admissions Committee to review and evaluate applications to the program. The committee will consist of representative from each of the academic tracks intending to accept Integrated BS/MS students. The ECE Graduate Advisor will be an ex officio member this committee to ensure that the character of the admitted applicants is in line with students admitted to the ECE MS degree through the regular admissions process. Admissions criteria will include the student's grades (*via* an unofficial transcript that you can print out yourself) and performance in key technical courses, a statement of purpose, letter(s) of recommendation, and other relevant demonstrations of academic ability. Admission may be restricted based on the department's availability of instructional resources, and admissions requirements may vary by technical track.

2. Admission, Stage 2.

Before beginning the fifth year of the program, students admitted through stage 1 will be required to apply for admission to the Graduate School as a Master's student. Application forms must be completed before the December 15 application deadline. GRE scores are not required for students admitted through the Integrated BS/MS program. Please note that Graduate Tracks may opt not to accept students into the MSE degree program through this pathway, so communication with and the advice of Graduate Track faculty prior to applying is very important.

The Integrated BS/MS Admissions Committee will review the progress of students in the integrated program (specifically the students' performances in their first attempts at graduate courses). At a minimum, a student must maintain a 3.0 undergraduate GPA and a 3.0 graduate GPA.

However, the GPA required for admission may be substantially higher than 3.0. For example the table below indicates the average GPA of all UT ECE applicants for the MSE degree and for those admitted for the two most recent graduate admission classes, Fall 2013 and Fall 2014. In general, GPAs less than about 3.5 have not been persuasive to the Track Admission

Committees. There are exceptions, of course (look at Electromagnetics and Acoustics, and Solid State). These were obviously very special cases that received attention, so their argument must have been very strong based on 3rd and 4th year performance other than overall GPA. This is a significant advantage that UT ECE students may have: the special cases may be easier to identify. Don't expect 3.27 GPAs to be persuasive, though. So, if you are going to apply to this program, please be realistic about your chances for acceptance. Contact Graduate Track faculty for their perspective on the strength of your application.

Table: Recent success rates for UT ECE BS graduates applying for the 9 Graduate Tracks.

Track	Fall 2013			Fall 2014		
	No. Applied	Average GPA	No. Admit / Average GPA	No. Applied	Average GPA	No. Admit / Average GPA
Biomedical	2	3.21	0	2	3.82	2 / 3.82
Comp. Arch.	17	3.56	8 / 3.81	7	3.7	5 / 3.75
ComNETS	8	3.8	6 / 3.84	4	3.9	4 / 3.9
Electromag. & Acous.	2	3.18	0	3	3.16	1 / 3.17
Energy Sys.	2	3.51	1 / 3.81	4	3.01	0
Int. Ckts. & Sys.	15	3.61	10 / 3.8	8	3.43	5 / 3.77
Plasma & Quantum Elec.	2	3.62	1 / 3.58	1	3.37	1 / 3.37
Software Engr.	6	3.56	1 / 3.96	7	3.52	4 / 3.67
Solid State	0		0	3	2.98	1 / 3.27

3. What If I Don't Complete the MSE Degree?

Students who do not complete the MSE degree, for whatever reason, may apply to have their two graduate courses revert to apply toward a normal BSEE degree. In this way, no student's progress toward the BSEE degree is negatively affected by participation in the Integrated Program.

NOTE: The PhD Degree in ECE requires a separate application through normal Graduate School channels and, most likely, GRE scores.