1 Introduction

The assessment committee is responsible for gathering information regarding the undergraduate curriculum and teaching in the Electrical and Computer Engineering Department. Formal sources of assessment information include:

- The Industrial Advisory Committee
- Alumni surveys
- Senior exit interviews
- Faculty course assessments
- ABET reviewer visits
- Graduate exit interviews

The primary purpose of this document is to summarize observations made over the last year, review recommendations from last year’s report, and to make recommendations for further changes.

2 Recommendations from last year

Here is the response to the issues that were identified as significant last year. We have not dealt with all of them, but some changes have been made. The issues are expressed in SMALL CAPS and the departmental response to them is in regular (Roman) font.

- **We are seeing a large bulge in the students in the program. The junior level class has around eighty students in it (based on enrollments in ECE 3620/36040, which does include some students who are retaking the course). Kathy Bayn has informed us that next year we should expect even more students in the junior class, if they are all admitted to the professional program. A significant concern, then, which we mentioned but never looked at in this last year, is raising the admission threshold to improve the quality of our students and reduce the class size. We are still working to achieve the Governor’s initiative, but we think we can increase retention if we increase the quality. Among other things, we will be raising the entrance requirement. We have shifted the courses requirements so that there are fewer core requirements, with more technical electives, which should balance the load somewhat.**

  The anticipated increase was not quite as large as expected. With the exception of 3620/3640, all the core courses are now taught twice a year, which has helped. These two courses are still taught only once. However, as there is no assigned lab, it still seems to work.

- **Take a look at how the pilot program with the English department is going.**

  We have the following comments from Paul Isaelson (from ECE 4840 Design II):

  Our joint effort with the English department where students submit their draft written documents to a technical editor for review was very helpful for the most part. It improved the quality of the materials I received greatly. However, it seemed that toward the end of the semester some of the technical editors may have been overloaded. Next time we will look at this issue and see if we need more technical editors assigned.

- **Finalize the response to ABET.**

  Done.
Examine how the software engineering course is going (CS 2370). There are some reports that it is not serving our students well, and there is excessive overlap with our junior design course. This course is still being taught as is. There is some overlap with junior design course. However, since the electrical engineers don’t take software engineering as a requirement, this information on project management is important to them. It forms an important part of junior design, but is by no means the entire part.

IMPLEMENT THE CHANGES IN PHYSICS/ELECTRONICS.

Students are now required to take the physics course. We have no specific information yet about how students are doing in the physics course, nor how it is affecting the electronics. This year we should be able to gather some information in this regard from the the graduating seniors.

HIRE NEW FACULTY AND INCORPORATE THEM INTO THE PROGRAM.

Brandon Eames has arrived. Dasu has been here a year. These faculty will help shape the computer engineering program.

FINALIZE THE COLLECTION OF THE GRADUATE COURSE OUTCOMES.

As course evaluations are turned in, these outcomes have been collected.

RECASTING THE OBJECTIVES FOR THE DEPARTMENT.

RESHAPING THE COMPUTER ENGINEERING DEGREE. WITH THE NEW COMPUTER ENGINEERING FACULTY THAT WE HAVE, WE ARE GAINING A DIFFERENT PERSPECTIVE ON WHAT COMPUTER ENGINEERING SHOULD BE. WE WILL THEREFORE EXAMINE WHAT WE ARE TEACHING AND WHAT WE SHOULD TEACH.

This has not been completed yet. There is still considerable ongoing discussion about the computer engineering degree, which has been shaped by additional considerations of whether we will be offering a masters degree in this area. Dyke has now retired; Alan has been retired. Both are still teaching, but could leave at any time. Joe Doupnik has been gone on sabbatical, but will be returning. With Joe’s return and the addition of Dasu and Brandon in the computer area, the discussions can begin taking a solid turn.

EXAMINE THE PREREQUISITES FOR 2530.

The issue is whether having a semester of programming can fit into the curriculum. Having the programming would help students understand the Verilog design. On the other hand, it would delay when most students could take 2530, which may have impacts on flow with other classes.

This issue has not been resolved yet, and is being placed for further consideration this year.

3 Curricular/assessment work this year

We were invited to resubmit a proposal to the president’s initiative to improve department teaching. After a lengthy effort, the proposal was not selected.

Continued to carry out the gathering and evaluation of course assessments.

The chairs of the committees met regularly to coordinate issues

Met to discuss the ABET response.

4 Outstanding and upcoming issues

The following issues are on the docket for the upcoming year:

Split 3620/3640 into a section each semester. Address whether this is the best way to use our teaching resources, or whether there are more effective uses (such as the possibility of bringing probability back from the math department).
• Modify 3620 and adjust prerequisite structure with 3410.
  There has been considerable discussion about the circuits content of 3620, and whether students are being adequately prepared for 3410. Examine the content and the prerequisite structure.

• Fields for computer engineers?
  There is a question of whether computer engineers should be taking a course in fields. Based on published guidelines, this is not necessary. In any event, the question of the 1-hour course needs to be carefully examined.

• Whole computer engineering degree program.
  With the faculty in this area turning over, with a broad diversity of areas, with changes in technology, and with the possibility of a MS in computer engineering, the computer engineering degree program needs to be revisited.

• Mobile robots?
  With Matt’s departure, will mobile robots continue to be taught?

• Prerequisite for 2530.
  A carry-over from the previous year.

• There are currently two sets of outcomes floating around for 3410, depending upon who is teaching it. We need to get these reconciled.
  More generally, there is outcome shift, as professors adjust according to their tastes. This is generally desirable, but we need to do a little formalizing.
In the following, brief summary information gathered from the course assessments is presented. In particular, if the information seems to be of a nature that the committee should be aware of this and/or act upon it, or if a commitment of resources could help improve things, then it is noted here. But if an instructor makes a comment relevant to in class issues, it is not noted here. The intent is to provide a document that will help us close the loop in improving the process.

3410 (Winstead) Students were very unprepared in basic circuit concepts. (This should be helped by the change in prerequisites.)

3720 (Stormont) Issues have been raised about the textbook and whether the focus hardware is so dated as to be irrelevant.

5320 (Chen) More hardware necessary.

5640 (Budge) Spectrum analyzers may need upgrading. DSP equipment is being replaced.

5660 (Gunther) Students were weak on probability.

5770 (Wheeler) Are we going to have other courses as capstone courses?

5420 (5930) (Baker) A transistor curve tracer would be highly valued for this course!