Course Specifications and Revisions

1. Purpose

This SOP establishes a standard format and procedures for specifying the objectives, topics, and content of EE courses, consistent with ABET requirements and our own needs. One ABET-compatible Course Specification shall be maintained for every undergraduate course offered by the department.

2. Responsibilities

1. **ECE Department Faculty**: Exercise final approval authority over this procedure and all proposed changes to Course Specifications.

2. **ECE Undergraduate Program Committee (UPC)**: Review all proposed changes to this SOP and/or Course Specifications, and recommend approval or disapproval to the department faculty.

3. **ECE Assessment Coordinator (AC)**:
   a. Assume primary responsibility for execution and maintenance of this SOP
   b. Maintain custody of the approved “current” copy of each Course Specification in .pdf format, available to all faculty, staff and students,
   c. For each course, assign a Lead Instructor responsible for that Course Specification.

4. **ECE Course Instructors**:
   a. When teaching a course, adhere to the existing Course Specification,
   b. When serving as Lead Instructor for a course, revise the Course Specification if and when required, and collaborate with the Assessment Coordinator to get the revision approved and published.
3. Format of Course Specifications

Each Course Specification shall follow the example template attached to this SOP (except for minor cosmetic variations). This format is a superset of the “Course Syllabi” required by ABET. In the template, your actual text replaces the underlined instructions in the template (do not underline your actual text). In addition, each Course Specification shall:

- Be no more than 2 pages in length,
- Employ the definitions specified in Section 4, below.

4. Definitions

For each major item in the “Prerequisites by Topic” and “Course Objectives” sections of a Course Specification, the depth of knowledge that the student is expected to acquire is defined in terms of 3 levels: Mastery, Familiarity, and Introduction. In addition, the term Application is included to describe hands-on practical experiences.

1. **Introduction to the Topic:** The student has heard the term or seen the procedure, but would not yet be able to employ it effectively. The usual purpose for covering material at this level is so a later course can expand on the topic without having to introduce it from scratch.

2. **Familiarity with the Topic:** The student is able to answer questions about the material, use the procedure, or solve problems when instructed to do so in a familiar context or under familiar assumptions. Final exams traditionally test for this level.

3. **Mastery of the Topic:** The student is able to apply the material or procedure in a context different from that in which it was originally presented, including one or more of the following:
   a. Be able to bring the knowledge or skill to bear in a new but appropriate context,
   b. Be able to derive solutions for analogous problems in a different context or under a different set of assumptions.

4. **Application of the topic:** The student has applied the subject matter in a laboratory or other real-world environment outside the usual classroom/homework/exam context. This term is meant primarily for laboratory courses, but it may also apply to other courses with large, realistic design or implementation projects.

   The term Application is independent of the Mastery/Familiarity/Exposure hierarchy and may be used alone or in conjunction with any of the other three terms (e.g. “mastery level application”).

4000-level courses should, in general, provide mastery of a portion of the material covered. Lower level courses should, where practicable, attempt to provide mastery in at least one topic, in order to prepare students for the demands of upper level courses.
EE-Number
Course Title

Curricular Designation:  CpE: required or elective, EE: required or elective

Catalog Description:

Must be the verbatim undergrad catalogue description, incl. credit hours, prereq course numbers, etc. You can find the current catalog descriptions online at:
http://www.admin.mtu.edu/em/students/plan/catalog/undergrad/index.php

Textbooks(s) and/or Other Required Materials:

Insert details here. Please use standard bibliographical style. If alternative texts are allowed, then list each alternative, separated by “OR”

Prerequisites by Topic:

Use the terms Mastery, Familiarity, Introduction, and/or Application as defined in the Department SOP entitled Course Specifications and Revisions.

Course Objectives:

Use the terms Mastery, Familiarity, Introduction, and/or Application as defined in the Department SOP entitled Course Specifications and Revisions.
Topics Covered:
List topics in sufficient detail that a new instructor or a program reviewer can understand what this course is actually supposed to deliver to the students.

Relationship of Course to Program Outcomes (See UPAC SOP, Tables 1 and 2):
- **EE:**
  - Outcome: letter via topic(s): from above
  - Outcome: letter via topic(s): from above
  - Outcome: letter via topic(s): from above
- **CpE:**
  - Outcome: letter via topic(s): from above
  - Outcome: letter via topic(s): from above
  - Outcome: letter via topic(s): from above

Contribution of Course to Meeting the Professional Component:
Choose the most appropriate of the following: “Math and Basic Sciences”, “Engineering Topics”, or “Significant Design Experience”.

Class/Laboratory Schedule (note: 1 hour = 50 minutes):
Choose or adapt the example format(s) best suited to your course, e.g.
- Lecture: 45 hours = 3 hours/week for 15 weeks
- Instructional Lab: 26 hours = (1 session/week @ 2 hours/session) for 13 weeks
- Working Lab: open hours

Prepared by:
Your Name, Your Faculty Rank, October 13, 2003