

TO: The Engineering Faculty
FROM: The EPICS Curriculum Committee
RE: New EPCS Course Numbers

The EPICS Curriculum Committee has approved the following new course number. This action is now submitted to the Engineering Faculty with a recommendation for approval.

EPCS 302 JUNIOR PARTICIPATION IN EPICS

Offered Fall and Spring, Summer by special arrangement. Credit 2.

Prerequisite: Junior standing.

Course Description: Continuation of EPCS courses (see EPCS 101). The responsibilities of juniors include working with the seniors in the planning and organization of the project, contributing to the design process, problem solving by contributing expertise from their discipline, meeting with the customer, and the mentorship of sophomores and freshmen. EPCS 302 is offered for 2 credits. The EPICS procedures manual provides information on expected relative workload for EPCS 301 and EPCS 302 students. May be repeated for credit. May not be taken concurrently with EPCS 301.

REASON:

The Engineering Projects in Community Service (EPICS) courses are currently offered under 18 different course numbers within 9 different disciplines. The new course numbers aim to reflect the multidisciplinary nature of the course while also easing the registration difficulties of multiple, co-listed course numbers. Each participating department /school would determine how their students' credits in EPICS count toward graduation requirements.

Normally Offered: Each Fall, Spring. Offered Summer by special arrangement.

Required Text(s): Service-Learning: Engineering in Your Community, Marybeth Lima and William Oakes, Great Lakes Press, 2004.

Recommended Reference(s): None.

Course Outcomes:

A student who successfully fulfills the course requirements with at least 3 credits of EPICS taken over 2 or more semesters will have demonstrated:

- i. an ability to apply material from their discipline to the design of community-based projects
- ii. an understanding of design as a start-to-finish process
- iii. an ability to identify and acquire new knowledge as a part of the problem-solving/design process
- iv. an awareness of the customer
 - v. an ability to function on multidisciplinary teams and an appreciation for the contributions from individuals from multiple disciplines
- vi. an ability to communicate effectively with audiences with widely-varying backgrounds
- vii. an awareness of professional ethics and responsibility
- viii. an appreciation of the role that their discipline can play in social contexts

Lecture Outline:

| Weeks | Lectures |
|--------------|--|
| 1-15 | All EPICS students have a common lecture hour. Lecture topics include the design process, verbal and written communication, project management and planning, ethical and legal issues in engineering design, entrepreneurship, intellectual property, team dynamics and leadership and community involvement. Lectures are supplemented with sessions on specific technical topics relevant to the projects. |

Lab Outline:

| Week | Major Course Milestones |
|-------------|---|
| 2 | Semester Project Plan |
| 3 | Personal Semester Goals |
| 4 | Project Charters (new projects); Project Demonstration (continuing projects); Review of Design Notebooks; Delivery Review of Projects to be Delivered Week 4. |
| 5 - 6 | Continued Progress on Projects and Project Documentation. |
| 7 | Internal Design Review; oral or poster presentation |
| 8 | Peer evaluation and self assessment; Review of Design Notebooks. |
| 9 - 10 | Continued Progress on Projects and Project Documentation |
| 11 | Project Design Review; Delivery Review of Projects to be Delivered Week 11. |
| 12 - 14 | Continued Progress on Projects and Project Documentation. |
| 15 | Team Report; Review of Design Notebooks; Peer evaluation and self assessment |
| Final | Team Presentation |