

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 101 FRESHMAN PARTICIPATION IN EPICS

Offered Fall and Spring, Summer by special arrangement. Credit 1.

Prerequisite: Second semester freshman standing or permission of instructor.

Course Description: Together, Engineering Projects in Community Service (EPICS) courses (EPCS 101, EPCS 201, EPCS 301, EPCS 302, EPCS 401, and EPCS 402) create a vertical project track under which students work in multidisciplinary teams on long-term engineering-based design projects. Projects of at least one-year in duration are intended to solve real problems that are defined in consultation with "customers" from not-for-profit community and education organizations. EPCS courses are open to students from all disciplines; each student contributes expertise in his/her academic discipline. Each team consists of a mix of freshmen, sophomores, juniors, and seniors. Students are encouraged to participate in an EPICS project team for two or more semesters via enrollment in EPCS 101 while a freshman, EPCS 201 while a sophomore, EPCS 301/302 while a junior, and EPCS 401/402 while a senior. Freshman participating in EPCS 101 gain insight into the specific project, and more generally, into the design and development process. They attend planning and reporting meetings with the customer and are expected attend all team meetings. Under the mentorship of the team's juniors and seniors they perform and report upon tasks consistent with their level of discipline expertise. May be repeated for credit.

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