

Bridging the Gap

My proposal for our group project is to work with the Civil Engineering (CE) undergraduates to teach them about the course concepts and public policy in general through a series of seminars that we would organize and lead.

The Problem

The undergraduate Civil Engineering curriculum is highly impacted and allows little to no room for students to develop the fundamental non-technical skills that are so vital in today's engineering industry. These skills include courses on leadership, communication, non-technical writing, public policy, etc.

The Criteria

In order to determine whether or not this is a problem, two metrics can be used:

1. The official program objectives of the UC Berkeley CE department for graduating students (the skill-set that students should graduate with);
2. The official objectives of the American Society of Civil Engineers (ASCE) for engineers with a bachelor's degree (from ASCE's Body of Knowledge program).

Comparing the current skill-set with which students are graduating against the first metric will provide evidence of a problem. Also, comparing the current CE project objectives against the objectives of ASCE also sheds light on a possible problem within the department.

The Roadblocks

The bottlenecks in the creation of a modern curriculum are twofold:

1. The department (and civil engineers in general) have typically demonstrated a resistance to changing the status quo
2. The limited to non-existent time within the official schedule of civil engineering students for classes.

These challenges, while important considerations in formulating a solution, do not negate the possibility for change.

The Method

Although actual method will likely be the result of collaboration among our laboratory section, the following steps are potential ideas (*by no means must these be the only avenues of pursuit*):

1. Conducting a seminar covering the leadership topics from PP260;
2. Conducting a seminar covering the unique relationship between Public Policy and Engineering (think Caltrans, Water Policy, etc);

The Benefits

The list below is by no means exhaustive. In fact, it is merely the product of one day's consideration:

For the civil engineers:

1. Necessary but otherwise neglected skills are learned;
2. Collaboration with students of a varied background and levels of experience;
3. Program can be the first run of a permanent annual seminar series;
4. Open the possibility of getting into Public Policy for graduate school and in general.

For our laboratory:

1. Make a substantial and tangible contribution to a community on campus;
2. Directly apply the skills learned in this class by publicizing, organizing, and leading a seminar on the PP260 course topics;
3. Develop skills communicating with engineers (non-trivial for those of us who have done experienced it).