

Engineering Panel on Employer Skills and Opportunities
February 2011

What curricular suggestions do you have for a high school who is going to start a STEM program? (Outside of the expected science and math coursework).

From what higher education institutes have you made your most successful hires? Do any schools (in-state especially) stand out in best equipping their engineering graduates?

What suggestions do you have for a STEM high school who is attempting to solicit funds from private engineering businesses?

Blair Corning, Wastewater Environmental Affairs Supervisor, South Adams County Water and Sanitation

Technical writing, public speaking, business and economics

I think the engineering programs at CSU, CU, and School of Mines are great programs. Engineers trained locally always seem to have a good understanding of the region and its issues.

Just ask. Tell them why you need the money and how it may benefit them in the short-term (publicity, taxes, etc.) and long-term (developing qualified engineers who may one day work at their company)

William Hoffman, Senior Principal Engineer, CTL Thompson

Science and math are important, so are social skills, writing and communication skills

From my firms prospective, In state Mines, UCD and CSU produce the more practical engineers and the students seem to have a good grasp of what engineers do. CU Boulder appears to me more into research and don't seem to have a focus on undergrads. A number of firms in the Denver area recruit from the University of Wyoming. Depending on the type of engineering, some firms pull from different Universities nation wide.

You may have better luck approaching professional societies rather than individual businesses.

American Council of Engineering Companies - Education Committee Response

- Engineering curricular does not necessarily have to be all about math and science. Communication skills are important too!

You will most likely have more success reaching out to local companies and those with employees who's students go to your school

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- It's important for kids to get a "hand on" experience or they may lose interest
- School of Mines is a school that stands out, but each school has its own strengths and weaknesses
- Ask first for volunteers and speakers. Once you develop relationships with the volunteers, the money and donations will come later.
- You don't necessarily have to start from scratch when creating a STEM program. Visit other programs and use their strategies as a starting point.
- It depends on what you are hiring them to do, some schools specialize in certain fields of engineering that others don't. Because of this, it's also important for students to figure out what kind of engineer they want to be before choosing a school. We recommend reviewing all of the schools' curriculum and programs because they all vary.
- If you are looking for speakers, look at the projects going on near your school. Find out what company is working on that project and ask them to come speak to your school.
- MESA (Mathematics, Engineering, Science, Achievement) is a good program to look into. Here is the contact info:
Debbie Woodward
Executive Director
- All of the Colorado universities are good. Colorado is a good place to stay for engineers

Other Advice:

- Convince parents to encourage students to do STEM
- Prioritize the message. Deliver the message better to students and parents so that they can help provide for the STEM program.

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- Lately (some of our engineers) have noticed that engineering students seem to be lacking in CADD training – Computer Aid Design Drafting. CADD training immediately adds value to students as prospective employees.
- Try to have a course with real-life situations, where a student can gain experience by working with a real client.
- Students trained in CADD have a huge advantage to getting a paid internship