Hello everyone!

It’s been a long time since my last blog. I apologize, I have been working on a few videos for the department and haven’t had the chance to write anything lately. It was also the middle of exams so I was not able to spare any time for this blog! However, I’m back now and I hope to post more on a regular basis.

I’m sure you’ve read posts from Katie about the Steel Bridge club at Lehigh University. I was fortunate enough to be involved with the club and I was able to attend the regional Steel Bridge competition (if you want to learn more about the competition, I’ve provided a link here: http://www.aisc.org/content.aspx?id=780). This year, the competition was held at the Naval Academy in Annapolis, Maryland. We actually just got back from the competition Sunday afternoon so everything is still pretty fresh in my mind. It was actually a perfect weekend and almost everything turned out right.

The Naval Academy

It’s always fun to visit another college. Even as a prospective university student, I’ve always loved going onto another campus and seeing the culture. A little bit off-topic, but doesn’t the idea that each university has its own culture, people, and buildings make you feel so small? Anyways, even though I consider myself to be motivated, I felt absolutely lazy when I was at the academy. My first impression: everyone was running. It didn’t take long for me to realize the discipline and pressure these kids go through. While a long day at Lehigh meant an 8 hour study session in the library, I can only assume how these cadets go through so much more.
The campus was beautiful. I’m not sure what the undergraduate (are they even called undergraduates?) population is, but Lehigh’s campus is absolutely dwarfed by the size of the academy. Even the biggest buildings at Lehigh seem to be moderately sized at the academy. I honestly wish I had taken more pictures.

The Bridge (before competition)

Going back to the topic of the bridge, I’m sure Katie has written a lot on the topic, but I’ll recap briefly. The Steel Bridge competition is an engineering project where different universities design and construct their own bridges and to ultimately test them against each other. These bridges measure 20 ft in length and around 30 feet in width, which is around 1/10 of an actual bridge. We started from scratch, just a pile of steel plates and steel rods. For the few months leading up to the competition, we designed our bridge using a 3D software. We were up in the lab ATLSS (Advanced Technology for Large Structure Systems) using plasma cutters and welders to construct each individual members of the bridge. By the time we were ready to go off to the competition, we have a whole bunch of bridge members that we can bolt up to create an actual bridge.

The Competition

There are three parts to the competition: (1) build speed, (2) lateral load, and (3) vertical load. These tests are pretty self explanatory. We are to assemble the bridge (remember, we’ve already had the individual members, now we just need to bolt them up) as quickly as possible. Next, we put a 50 lb lateral load on the bridge. Lastly, we see how much weight we can apply vertically onto the bridge.

Unfortunately, since our team was very inexperienced (most of the team is comprised of underclassmen), we did not perform as well as many of the other teams. Our build
speed was 25:02 (maximum time was 30 min) and we failed the lateral load test. Since we failed the lateral load, we were unable to continue to vertical loading.

Despite our low rankings, it was a wonderful experience. Our team learned many vital lessons on how to improve our bridge. The most important of which is to allow time for the bridge. Instead of cramming the entire construction into a matter of weeks, we must begin our bridge earlier. One of our biggest failures this year was that we started too late. We didn’t even begin building our bridge until just a month ago. By giving our project more team, we can improve our results greatly.

Source: http://lehighce1.wordpress.com/2014/04/17/steel-bridge-competition/