

CENTER FOR TECHNOLOGY, ESSEX
Engineering / Architecture
Advisory Board Meeting

Minutes - June 18, 2019

The meeting was held in the Engineering/ Architectural Design classroom at CTE. The advisory Group was split for this meeting into only the (Mechanical) Engineering advisors.

Present at meeting:

Jim Dirmaier - Instructor
Cory Arcovitch - Husky Injection Molding
Michael Perrault - ExactBuilt
Robert Smith - Retired Mechanical Engineer

The meeting was called to order at 7:16 AM.

Jim handed out the agenda:

- Jim welcomed the group and went over the agenda for the meeting. Jim noted that there were no visitors present to be heard. The agenda for the meeting:
 - Review of curriculum and student portfolios
 - Review of the year's activities
 - Discussion of Industry partnerships
 - Discussion of student coop opportunities
 - New Business
- Jim introduced the members to each other with a special introduction to Cory and Michael who are new members. Both are mechanical engineers and are graduates of the CTE engineering program: Michael in 1994 and Cory in 2011.
- **A review of the Program Curriculum:** Jim went over some of the key elements of both the 1st and 2nd years of the program. This was to bring the members up to speed with the current curriculum, the software used, and the main concepts taught in the program. Jim highlighted the following from the curriculum:
 - **Freehand Sketching:** Freehand sketching is still taught as the first unit during the early part of the year and is required on all projects before students can put their designs on CAD (Computer Aided Design) software. The group briefly discussed the value of this to the design process and agreed that in the future

this might look differently. Michael commented that he thought the value of sketching was in giving students a sense of scale and how big/small things are.

- **CAD Certification:** Jim showed student work samples of the SolidWorks projects and assignments that the first-year students do and informed the group that %80 of the students passed the Certified SolidWorks Associates (CSWA) exam this year. He described the certification. Michael added that he thought it was good for the students to have the certification to show possible employers that they have job-ready skills and weren't just "dabbling" on CAD. The others agreed.
- **CNC Machining:** The second-year students learn how to program in CNC coding language and create accurate parts.
- **Student Portfolios and websites:** Jim showed the portfolios of three students. Portfolios are online and in the form of websites that students create to showcase their work from the year. The group commented that the portfolio was very valuable for showing people what their skills are. Cory mentioned that he was given credit in his UVM CAD course after the professor viewed his CTE portfolio.
- **Industry Partnerships:** Jim discussed opportunities for the members to come into the classroom in the next year to demonstrate, share, or teach any engineering topic that they wished. He informed the group about the architectural board's activities this year in coming into the classroom and showcasing different aspects of the architectural field, including the use of Oculus Rift equipment for customers to be able to walk through virtual house designs. The group commented that it was too early to schedule visits for the next year but all were open to doing that at the start of the new school year.
- **CWE opportunities:** Jim listed the different coop opportunities that students participated in this year and explained the various levels of coop: Career Work Experience (CWE), paid and unpaid coop, and apprenticeships. He mentioned that he would welcome the participation of both Husky and ExactBuilt in hosting students for CWEs. Both Michael and Cory said that they would look into it for next year. Jim offered to have Jamie Patterson go through the process with them at a later time, next year.
- **New Business:** Jim opened the floor for a discussion of any topic that would pertain to the program or if there was anything that the members would like to see in the curriculum.
 - **LEAN Manufacturing:** Michael thought that students in the program could benefit from assignments or a seminar to practice optimization and design improvement techniques/skills. He had some employees that went through some LEAN training and found it very valuable for understanding the engineering process.
 - **Sense of Quality:** Michael would like to see the students do some hands-on activities to learn quality of manufacture. "What do you have to do for a part to turn out right? What do you have to do to make it right?"

- **Bad Part Exercise:** Have second-year students make CNC parts to fit into an assembly to learn the difference between good parts and bad parts.
- **Employability Mindset:** Have the students completing the program be mindful of the expectations that employers have of them.
- **Writing Instructions:** Have students practice technical writing and teach instruction writing techniques.
- **Equipment:** Jim mentioned that he needed a granite table for the program for teaching proper measurement techniques. Michael mentioned that he had one that he could donate to the program.
- **Maker Space Tour:** Jim took Michael on a short tour of the FabLab to show him the laser cutter we use and the general facilities.
- The meeting adjourned at 8:50

Submitted by:
Program Teacher: Jim Dirmaier
Date: 6/18/19