Manufacturing and Automation Advisory Committee
March 28th, 2025
CACT-2

MINUTES

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College Staff: Paul Van Hulle I **Note taker:** Shazna Uduman

Welcome and Introductions

Call for additional agenda items to be added to the agenda.

Annual Recap

- **LMI Data Update**
  - LMI – used to decide how program is marketable and students can get job reviewed stats, job openings, pay
- **Manufacturing and machining**
  - Paul would like to learn how to hook up PLC's to robots from Rudy
  - Mentioned how he would like industry advisors to be hired as professors to teach in these fields
  - He hopes he will be able to meet with advisors over zoom yearly
- **Industrial maintenance and automation**
- **Created two new certificates:**
  - **Robotic Systems certificates** (Covers automation in both machining and other areas)

Program goals and objectives:

- Demonstrate knowledge of robotics used in industry and manufacturing environments.
- Apply maintenance fundamentals to simulated and actual workplace applications as related to robotics.
- Recognize, identify and describe the functions of robotics and robotic related activities.
- Troubleshoot and repair basic robotic functions.
- Communication from machine to robot vice versa
- Robot do assembly, robotic welding
- Have 2 robots, biggest problem is space
- Reviewed classes for Robotics program
- Use of Squeaks software
- Allen Bradley to offer course – Intro to PLC, Basic Industry Controls etc.

- **Equipment:**
  - Gained a trainer for teaching PLC troubleshooting
  - Paul hopes to have other instructors to train/teach ELE courses
  - Discussed sequencing of each class

Paul asked, is there anything with robotics that are lacking?

- **Rudy** mentioned, key is to give progression, know basics and grow into advanced concepts ex. Robotics and PLC. Emphasize on how all systems work together ex. How PLC works and how it works with robotics. Also, to sequence courses and structure in a way so students don't get lost as they progress and incorporate theory

- **Current certificates:**
  - *CNC Operator*
  - *CNC programming*
  - Suggestion made to for adding fusion and/or option to Master Cam

Paul asked, any opinions?

- **Dan** suggested using odd shape due to its integrated CAM
- **Farshid:** short cert added because of Mastercam
- Non-credit certificate options are available, good for professional development and are free and can be transferred to credit later on.

  - *Conventional Machine Operator*
    - **Jim Payton** shared that students that students are to make 2 projects and shared success

stories of a couple of students who can run mill and were able to get promotion and raise
    - **Ted Jackson** asked, What kind of projects? As counselor, he would like to know about them to refer students.
    - **Jim** mentions the importance of taught skills for a career
- *Industrial automation*
    - Santos (student) commented that the class was very helpful because of the trouble shooting scenarios and class being very hands on.

Instruction and Curriculum changes

a) Workplace trends – Paul asked, **Any Workplace trends that should be addressed in classes or developed around?**
b) Emerging Technologies
    - need to cover more HMI in courses
    - understanding of drives and troubleshooting
c) Planning to write new certificates
    - proposed creating a certificate in electro fluid power systems
    - Paul asked, **Is it valuable for our industry in our area?**
    - advisory finds it valuable since they are using industrial automation
d) New Policies or Initiatives
    - Introduced Susie, a successful student for hire and for advisory to connect with Career Center to promote job opportunities
    - Paul discussed Quality Control measurements. **Wallace**, mentioned that Quality Management System and Standards would be useful training. The importance of understanding industry standards, such as ISO 9001. Biggest concern is finding teachers to teach this coursework.
e) Future Trends in the Industry

Equipment Needs

- **For Automation**
    - Trainers for teaching pneumatic and hydraulic troubleshooting and other troubleshooting
    - Teaching networking is much needed, need to understand how industrial networking works and understanding of ex. cybersecurity, VPN, firewalls etc.
    - Understanding the differences between IT, business and automation network
    - Hydraulic and pneumatic maintenance
    - Additional Alan Bradley PLCs

  Paul asked, Siemens or Alan Bradley PLCs, which one should we go with?
    - Alan Bradley was recommended. It's also an American company and with using/buying American in this climate
- **For machining**

  Quality control
    - Optical comparator
    - Vision Systems
    - Keyence

  CMM machine

  More Haas CNC machines including Tool room mills and lathes
    - Robotic, robot interface
    - More conventional machines

- **How many machines per student?** the ideal class size for a robot class, with a maximum of 4 or 5 students or have more machines to accommodate for larger classes.
- Important for students to have hands-on machine time and there's a need for more teachers

Engagement

- Students – no comments
- Advisory Council members
  - Paul thanked advisory members, would like to see them return and would like to have more zoom meetings more often to connect.
  - Paul and Farshid offered to show the attendees more of the automation equipment and classrooms, took them on a tour

Other

Review actions and next steps

1) Jim to request additional conventional mills to accommodate larger class sizes
2) Robert to provide model information for the vision system/3D scanner discussed.
3) Paul to document equipment needs (including CMM machine, vision system, and additional Alan Bradley PLCs) for future funding requests.
4) Incorporate more industrial networking content into automation courses. Instructor to create a new certificate for Electro Fluid Power Systems.
5) Instructor to organize quarterly Zoom meetings with advisory members for ongoing feedback.
6) School to consider implementing NIMS certification for machining programs.
7) Instructor to add HMI functionality training to relevant courses.

Adjournment.