

Mechatronics Center Advisory












Meeting Notes

4/1/2020

Attendees:

Andrew Dahlen – Mechatronics Instructor - Northland Community and Technical College
Curtis Zoller – Associate Dean Aerospace - Northland Community and Technical College
Kirsten Michalke – Director of Workforce Development – Northland Community and Technical College
Jeremy Leffelman - Executive Director - Minnesota State Advanced Manufacturing Center of Excellence
Sue Selland-Miller - Director of Manufacturing Education Programs - Minnesota State Advanced Manufacturing
Charles T. Rognerud - Steffes Corporation
Tony Pierce – Plant Manager – Philadelphia Macaroni Company
Mandy Johnk – Human Resources - American Crystal Sugar
Lloyd Kennedy – EGF Factory Manager – American Crystal Sugar
Travis Ostlie – Maintenance Supervisor – Marvin Windows Grafton
Austin Cote – Automation Engineer - Marvin Windows Grafton
Curt Hansen – Training Manager - American Crystal Sugar

Files Shared:

1.  2_Mechatronics Center Manual.pdf  1_MECHATRONICS CENTER.pdf  8_MECH Equipment List.pdf  7_MECH_CCOs Final.pdf  6_MECH_AAS_Description_PLO_Final .pc
-  6_MECH AAS Program ProgressiorrogressionFinal.pdf  5_AutomationCertP Description and PLC ogressionFinal.pdf  5_AutomationCert Description and PLC ogressionFinal.pdf  4_MechanicalCertPr Description and PLC ogressionFinal.pdf  4_MechanicalCert Description and PLC ogressionFinal.pdf
-  3_FLEX LAB POLICY.pdf



Meeting Notes:

1. Presented Mechatronics Center Power Point.
2. Note: Add an estimated breakdown of lab vs. lecture for each course in the syllabus or other location. Each course will have a different mix of online materials vs. lab time required based on the content being covered and the equipment needed. For example, the metal lathe course will require more time in the lab learning how operate the machine and produce parts.
3. With traditional classes, employers knew how long their sponsored employees would be gone for and had a fixed schedule. This model is individual and not as predictable. Students may accelerate through course materials or take more time as needed.
4. Questions about how many hours students will need schedule when attending full time. Again, the competency-based model is different for each student. In assigning credit value to each class Northland used the standard that one credit hour is equal to 45 hours of work over a 16-week semester. One approximation is a full-time student in the Mechatronics program will take 12 credits. $12 \times 45 = 540$ Hours. $540/16$ weeks = 33.75 Hours per week.

Note this estimate did not include liberal arts (Math, English, etc.) courses required for an A.A.S in Mechatronics.

5. Note: Travis from Marvin Window recommends more lab time and less online digital content. Based on feedback from the students in the Manufacturing Program.
6. Goal of this program is to increase flexibility and reduce the seat time for students at Northland.
7. Notes PLC content. Switch to Allen Bradley. Northland aims to deliver training which best meets industry demands. Allen Bradley is the Marvin Windows Standard PLC. Philadelphia Macaroni Company also wants training on Allen Bradley PLCs.
8. Note – compared to a traditional classroom setting this program can operate leaner on instructional equipment resources. A class of 24



students may need 12 training units. In this competency-based model we may only need 4 units depending on demand and scheduling.

9. Marvin Windows interested in this program to train engineers and technicians on specific technology like PLCs. This may reduce the internal time spent on training.
10. American Crystal Sugar comments the curriculum looks good, but is missing units on valves (ball, butterfly) and pumps (centrifugal and positive displacement).
11. Northland welcomes suggestions on curriculum. This input is vital to the relevance and success of the program. Input will be used to justify new classes and investment in instructional equipment. In the future the Mechatronics degrees may have more options to choose from based on industry demand.
12. For this program to succeed, Northland needs students. A few local companies have sponsored students in Northland's Electronics and Manufacturing Programs. Northland believes the innovative delivery model for Mechatronics will help industry partners develop the technical workforce.
13. Discussed marketing of this program. Northland is working to create marketing materials; online and printed materials.
 - a. Industry partners state there is a need for handouts as some of the workforce has limited access to computers.
 - b. Discussed lunch and learn – Steffes
 - c. Tours of campus once program is up and running.
 - d. Northland plans to partner with high schools within driving distance to explore dual enrollment – PSEO options.
 - e. General marketing to HS students.
14. Discussed equipment needs – See the equipment list document. Minnesota State Colleges and Universities use a leveraged equipment program which relies on a 50% match from outside the college. As this



partnership grows, Northland welcomes industry donations of new and old equipment resources. Note all such donations need to be approved and be required for instruction of the curriculum.

15. All are invited to follow up after the meeting with additional questions and feedback.

Thank you very much for your input.

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