Bemidji District Curriculum Advisory Committee

7:00-8:00 a.m., Tuesday, December 9, 2014
District Board Room, Downtown Education Center (5th Street across from Riverwood Bank)

Committee Members: Ami Aalgaard, Vince Beyl, Brandon Bjerknes, Brent Colligan, Erin Curran, Michelle Dahlby, Mary Fairbanks, Dave Gooch, Jeff Haack, Jim Hess, Donna Hickerson, Drew Hildenbrand, Carol L. Johnson, Maura Johnson, Kim Kusler, Ann LongVoelkner, Kathy Palm, Craig Rypkema, Ken Schreiber, Brian Stefanich, Wendy Thompson, Chris Tolman, John Truedson, Kathy VanWert, Sonia Wadena, Janine Wahl

Agenda

1. Breakfast beginning at 6:30 a.m.

2. Introductions—tell us who you are and where you work

3. MI 2 - Minnesota Initiative Institute at BHS – David Gooch, BHS Project Lead the Way Instructor

4. Bridges Academy – Dr. Hess & Brian Stefanich

5. 2014-2015 School Improvement Plans- see handout

6. 2014-2015 World's Best Workforce Plan—posted on the web at: http://www.bemidji.k12.mn.us/ under Curriculum & World's Best Workforce.

7. Fall 2014 NWEA Measures of Academic Progress Results- see handout

8. MDE Monitors Bemidji Title I & II January 12-16, 2015

9. 2014-2016 Curriculum Review—Art, Health, Music, Physical Education, World Language

10. College & Career Interventionist Position – Supported by Rural & Low Income Grant

11. Other?

12. The District Curriculum Advisory Committee meets at 7:00 a.m. the second Tuesday every other month and additional times as needed. The following schedule is set for 2014-2015 at the District Board Room, Downtown Education Center:
    - Tuesday, October 14, 2014, 7:00 a.m.
    - Tuesday, December 9, 2014, 7:00 a.m.
    - **Tuesday, February 10, 2015, 7:00 a.m.**
    - **Tuesday, May 12, 2015, 7:00 a.m.**

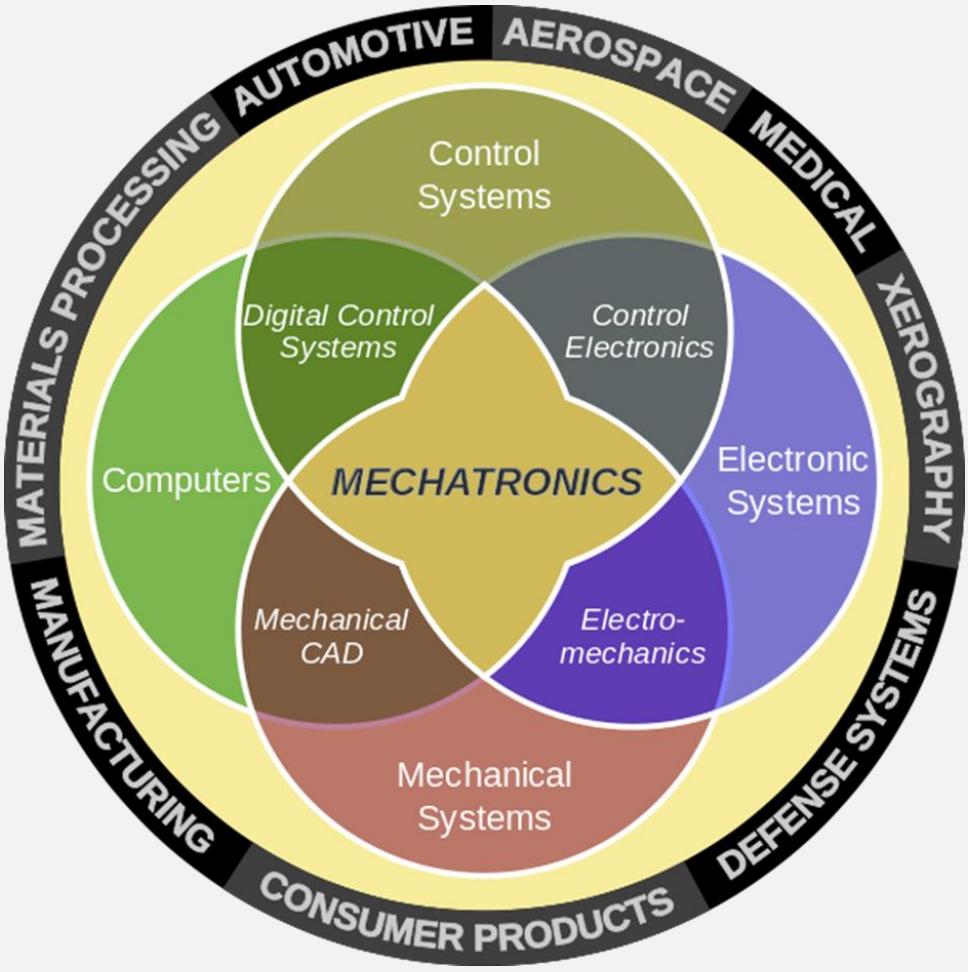
Thank you for your dedication to Bemidji Area Schools and our students!
Enjoy a wonderful holiday!

MINNESOTA INNOVATION INSTITUTE

High Performance Center

MECHATRONICS

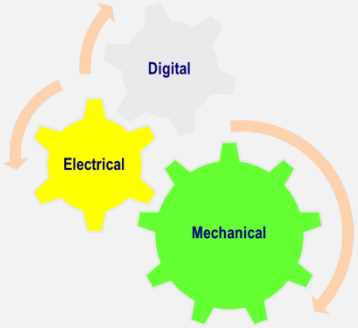
Mechatronics is the synergistic integration of mechanics, electronics, control and systems theory and computers into a complex, single system used within production and manufacturing, in order to improve and/or optimize its efficiency, productivity, and quality.



With its system focus and holistic learning model Mechatronics training addresses the skills gap concerns that industry is experiencing today by focusing on relevant skills training. Mechatronics training is the starting point for all trainees, maintenance staff, incumbent workforce and new production hires. Mechatronics training involves e-Learning with appropriate, hands-on learning of theoretical principles.

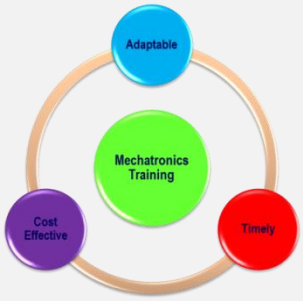
We begin by setting up trainees within the e-Learning system and providing access to the courses with an assigned username and password. Once a training program is established trainees then begin online e-Learning; and, trainee progress is monitored by the e-Learning administrator, Mark Dockter. Upon completion of the relevant e-Learning modules a lab is scheduled whereby the trainee utilizes a Mechatronics lab specifically designed to reinforce the theoretical principles studies and hands on skills demonstration and assessment by a qualified lab instructor.

With the Mechatronics learning system the trainee develops an understanding of subsystem's interrelationships and how they drive system function as a combined whole. Trainees who advance through the entire Mechatronics training program learn comprehensive troubleshooting & systems analysis skills that will help grow a pipeline of qualified workers, improve worker's basic skills and competency, reduce employee turnover, advance incumbent worker skills, improve employee satisfaction, increase productivity, reduce manufacturing costs, retain and attract new customers and maintain your competitive advantage.

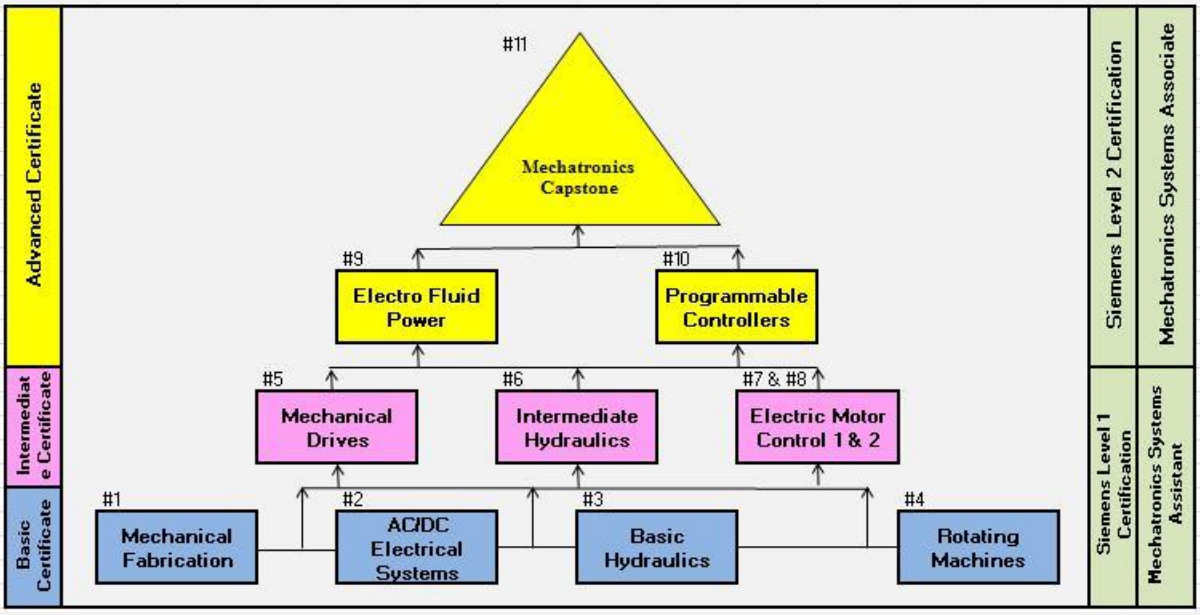


Mechatronics training requires competency in ten core areas:

1. Mechanical Fabrication
2. AC/DC Electrical
3. Basic Hydraulics
4. Rotating Machines
5. Mechanical Drives
6. Intermediate Hydraulics
7. Electric Motor Control 1
8. Electric Motor Control 2
9. Electro Fluid Power
10. Programmable Controllers
11. Mechatronics Capstone (Delivered in a face to face group setting only)



MECHATRONICS PROGRAM PYRAMID



NOTE: This program is offered by the Minnesota Innovation Institute. At this time college credit is not available.

Upon successful completion of each of the pyramid levels of training the trainees are eligible for certificates of completion:

- Basic Mechatronics Certificate
- Intermediate Mechatronics Certificate
- Advanced Mechatronics Certificate

The Minnesota Innovation Institute is an independent education and economic development organization located on the Northwest Technical College campus. Instructional programs are designed by industry; managed by The Idea Circle; and, led under Greater Bemidji. Mechatronics is NOT a Bemidji State University or Northwest Technical College program.

Bemidji State University and Northwest Technical College are in the process of evaluating college credit for each course and certificate. Bemidji State University is also considering accepting these courses as part of their Bachelor in Applied Engineering and Bachelor in Technology Management majors.

MECHATRONICS PILOT

With support from local companies and external funding, the first two courses (Mechanical Fabrication and ACDC Electrical Systems) in the Mechatronics series is being made available to individuals wishing to gain new technical skills and explore career options.

MECHANICAL FABRICATION

Mechanical fabrication grounds learners in the basic knowledge needed for assembly. Learners focus on the proper and safe application of hand tools. Mechanical fabrication builds knowledge in the many types of bolts, wrenches and other fittings commonly used in industry and how to properly apply them, including pneumatic fabrication fittings. It focuses on proper techniques for checking connections and testing fittings with an emphasis on safety. Proper tool use helps in many ways, including injury avoidance, fewer product quality issues, and lower tool breakage costs. Sample occupations using Mechanical Fabrication skills range from entry level manufacturing and assembly jobs, repair work and maintenance positions, to engineering and construction work. Mechanical Fabrication is a building block for any job requiring hand tools.

AC/DC Electrical Systems

The AC/DC Electrical course teaches fundamentals of AC/DC electrical systems used for power and control in industrial, commercial, agricultural, and residential applications. Students learn industry-relevant skills included in subject areas such as Basic Electrical Circuits, Electrical measurement, Circuit Analysis, Inductance and Capacitance, Combination Circuits, and Transformers. Sample occupations using AC/DC electrical skills include carpentry, automotive, construction and manufacturing as well as many retail stores that include service shops such as Sears, WalMart, etc.

PARTICIPANT ELIGIBILITY & EXPECTATIONS

The intent of this program is to provide short term training to upgrade technical skills and help individuals find jobs. Part of the coursework is completed through e-learning and simulation; and, part of the coursework requires practicing and demonstrating new skills in an instructor supervised lab located at Northwest Technical College. Participants that are familiar with computers; have a good grasp of math concepts; and, a good work ethic will be more successful.

Our expectations are that Trainees:

- Take the National Career Readiness Certificate exam;
- Attend and fully participate in lab sessions;
- Demonstrate a good work ethic by being on time and communicating any issues with instructors;
- Complete the e-learning and demonstration of skills; and,
- Complete a resume and attend at least one job interview.

We will assist you with arranging a job interview.

SCHEDULE
Participants will work on either e-learning modules or attend a lab about 2 hours every day. A tentative schedule has been created and is attached. The program will begin November 10, 2014 and is expected to end in January, 2015.

LOCATION
E-learning: BHS Classroom: 1238, Instructor(s): Bill Joyce and Dave Gooch
Labs: NTC Classroom 504B, Instructor(s): Arvid Larson, Mark Dockter & Laura Eaton

PAYMENT:
There are income guidelines and eligibility requirements for those who are supported with grant dollars; however, there are also company scholarships available. No money is expected from the participants; and, participants will be accepted as funds and lab space allow. **There are no guarantees everyone will be able to participate in this program; but we will do our best to include as many participants as possible.**

By bringing together e-Learning, the core expertise of Certified Mechatronics trainers and hands on labs the trainee will experience a highly adaptable systems focused technical training program that helps to create knowledgeable technical workers that can work in a variety of industrial production jobs, technician and maintenance positions, and with additional college education fulfill engineering roles.

For More Information Contact:

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Bemidji High School	Minnesota Innovation Institute/ The Idea Circle, Inc.
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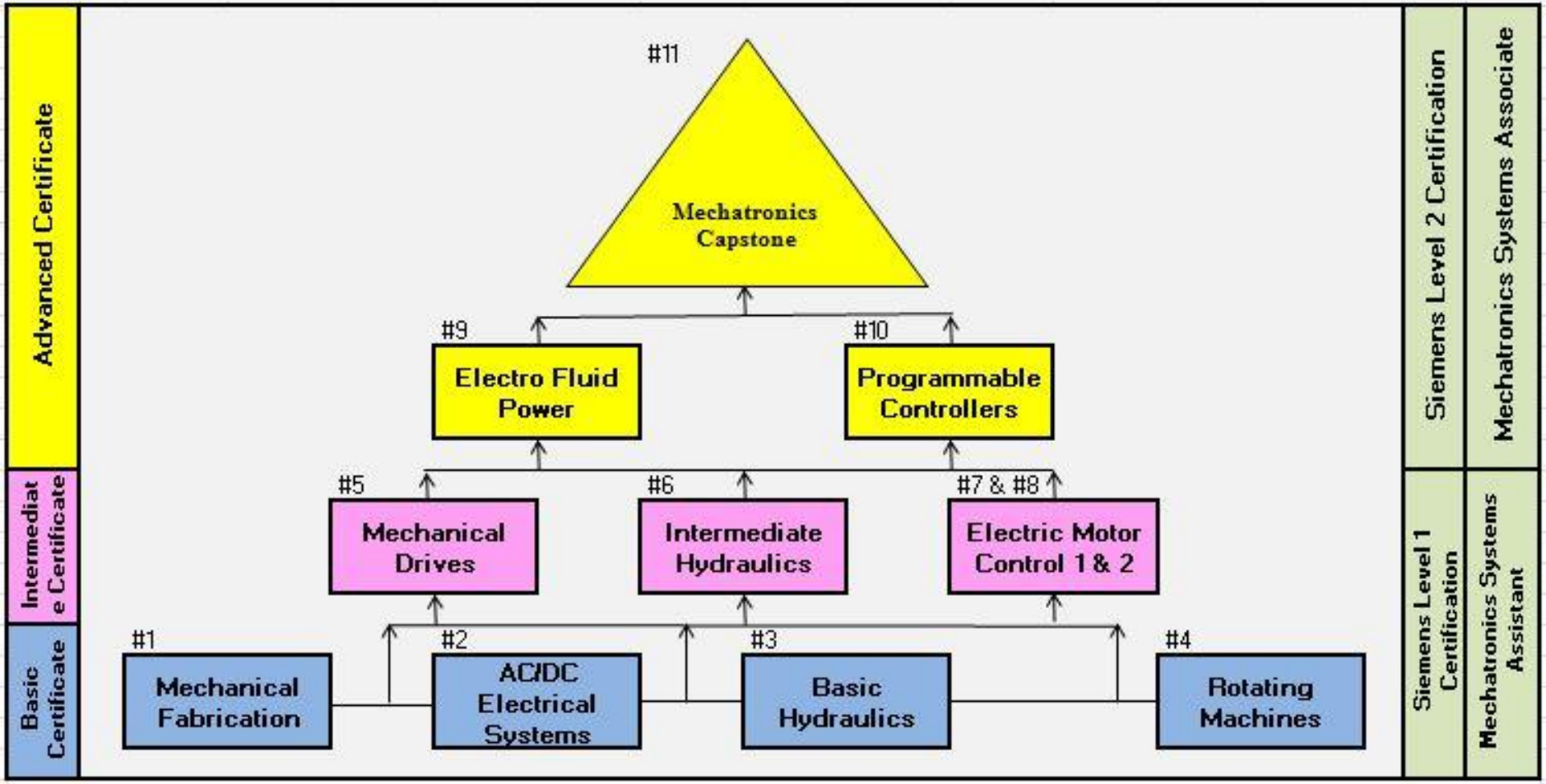
Email: dgooch@bemidji.k12.mn.us	Email: meaton@theideacircle.com

MECHATRONICS PYRAMID



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BEMIDJI AREA SCHOOLS
FALL 2014 MEASURES OF ACADEMIC PROGRESS (MAP) RESULTS

The Northwest Evaluation Association (NWEA) MAP assessments are computerized norm-referenced assessments. Grades 2-9 complete MAP reading and math assessments in the fall and spring. MAP is aligned with the Minnesota Academic Standards and provides detailed information and growth measures that help teachers determine areas to focus instruction.

On the tables below, **green** indicates 3 or more points above the norm RIT; ***red*** indicates 3 or more points below the norm RIT. Shading indicates the strand with the lowest RIT score.

READING:

- All grades but Grade 2 are performing within 3 points of the Reading norm mean RIT. This is the first time second graders have taken this computerized assessment, and it is stressful for some.
- The reading strand with the greatest concern is Informational Text, a new focus with the Common Core Standards.
- Overall, Bemidji students are performing well in Literature and Vocabulary.
- Grade 9 is performing more than three points above the norm RIT in every reading strand, and Grades 7 and 8 are above norm in Vocabulary.

Reading

				Strands			
Group	Grade	# Students	Mean RIT	Literature Mean RIT	Informational Text Mean RIT	Vocabulary Mean RIT	2011 Norm Mean RIT
Fall 2014	2	413	***169.9***	***171.3***	***168.1***	***170.2***	175.9
Fall 2014	3	376	188.7	188.7	188.4	188.9	189.9
Fall 2014	4	384	200.7	201.3	200.0	200.7	199.8
Fall 2014	5	357	208.9	209.5	208.2	208.9	207.1
Fall 2014	6	371	214.5	214.7	214.2	214.7	212.3
Fall 2014	7	343	219.0	219.0	218.6	**219.3**	216.3
Fall 2014	8	331	221.5	220.9	221.1	**222.4**	219.3
Fall 2014	9	366	**227.4**	**227.7**	**226.3**	**228.1**	221.4

MATHEMATICS:

- All grades except Grade 2 are performing within 3 points of the Math norm mean RIT.
- The math strand with the greatest concern is Algebra. Number & Operations is a concern for Grades 2 and 3, and Geometry & Measurement is a concern for Grades 8 and 9.
- Overall, Bemidji students are performing well in Data Analysis.
- Grades 6 and 9 are performing more than three points above the norm RIT in every math strand, and Grade 8 in all but Geometry & Measurement.

Mathematics				Strands				
Group	Grade	# Students	Mean RIT	Number & Operation Mean RIT	Algebra Mean RIT	Geometry & Measurement Mean RIT	Data Analysis Mean RIT	2011 Norm Mean RIT
Fall 2014	2	409	175.8	***174.6***	177.3	176.3	***174.9***	178.2
Fall 2014	3	374	191.4	190.7	192.0	191.4	191.3	192.1
Fall 2014	4	389	204.7	205.3	203.6	205.0	205.1	203.8
Fall 2014	5	360	215.2	**216.6**	214.3	214.8	215.2	212.9
Fall 2014	6	372	**223.5**	**224.0**	**222.8**	**223.2**	**223.7**	219.6
Fall 2014	7	344	228.4	**229.2**	227.2	227.4	**229.9**	225.6
Fall 2014	8	332	**233.9**	**234.7**	**233.6**	232.7	**235.0**	230.2
Fall 2014	9	353	**241.0**	**240.7**	**244.0**	**239.4**	**240.3**	233.8

In May, we will measure the student growth from Fall 2014 to Spring 2015.