Partners for Progress in Delta, Inc.
Building Alaska's Workforce

The Leading EDGE

Education+Delta+Greely+Excellence

Winter/Spring 2016

Fabulous FAB LAB Infuses Enthusiasm for Learning and Spurs Creativity

Add the following: **two instructors** plus **two classes** plus **two hours** and what do you get? **Not six, but one highly energized and collaborative class environment**. High school instructors Mike Adams (AutoCAD) and Gary Hall (Metals) teamed up this fall at Delta High School to introduce students to team work and basics in welding and AutoCAD. The result has been a practical and innovative experience permitting students to become immersed in real-world projects that demonstrate competence with using equipment and software. Students also gain a full appreciation of the importance of math in both skill areas. According to Hall, "The pilot is looking like a real success."

> "We can draft, make a 3D model and then go out and fabricate a life size project."

And the projects speak volumes about the capacity of young adults fully involved in team work and creative problem solving. For example, welding jackets and hoods needed to be better organized in the shop. "No problem" said Kirsten Porter and she proceeded to design and construct a coat rack. Certified Department of Forestry approved burn barrels make money for the program so several students focused on this project.

Safely handling heavy pieces of steel can be difficult during cutting and fabrication. Joseph Becker and Harrison Kiser took on this challenge and built jack stands and roller stands for use in cutting pieces of pipe so they remain level. Becker has had two years of Metals classes and he signed up for the Fab Lab to learn some new things. Becker

continued inside

The very first Fab Lab class! Front Row (L-R) Jack Reiter, Kirstin Porter, Tim Adams, Tim Webb, Michael Yearty. Middle Row (L-R) Kyle Enderle, Tom Mountcastle, Sam Fellman, Dima Kravets, John Gjlushko, John Lennon, Jeron Lemons, Harrison Kiser. Back Row (L-R) David Becker, Daniel Moschell, Michael Hooton, Dustin Moschell. Nik Prokoshev, Daniel Budnik

CTC Update

Arvid Weflin, professor emeritus, taught aviation maintenance for the University of Alaska Fairbanks Community & Technical College (UAF CTC), for more than 30 years. He currently is on special assignment to the dean of CTC and in that capacity has been working with Partners for Progress in Delta to set up an Occupational Endorsement in Welding pathway for young adults through high school and university classes leading to the required 21 credits for the industry endorsement. He also assists adjuncts—those instructors from the

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The Partners

Alaska Works Partnership
alaskaworks.org

Delta/Greely School District
dgsd.k12.ak.us

University of Alaska Fairbanks Community and Technical College
ctc.uaf.edu

University of Alaska Fairbanks Cooperative Extension Service
uaf.edu/ces

Operating the
Delta Career Advancement Center

said, "Getting both AutoCAD and Metals fabrication at the same time has been great." He went on to say, "We use a ton of math in the class for just about everything." Kiser has only been in the Career Center this year for the first time and he is interested in drafting. The Fab Lab class time worked for his schedule. He is a sophomore and loved the field trip the students took to Fairbanks to visit Universal Welding and Flowline.

Becker also worked on a project for his grandparents; fabricating a metal map of Alaska for them to place in the entrance of their Arizona home. He drafted the project in AutoCAD, then used the Plasma Cam to cut it out. He was able to polish it and present it to them before they left for their home there.

Students explain that they have the opportunity to work on a project as part of a team and they each can also come up with something "real-world" and do it on their own.

Using a 3D printer Nik Prokoshev is building a radio controlled aircraft. His challenge is finding the right density for each part—not too thick to make it impossible to fly but thick enough so it doesn't break.

Tim Adams wanted to improve on a dune buggy model he found online. His knowledge of the AutoCAD software led to a number of design modifications, that with teammate and welding ace Kyle Enderle, is taking shape in the shop.

In Fab Lab, Michael Hooton and team mate Jack Reiter are handling the completion of the trailer Metals and Construction Trades students have been building for the past year by securing important latches. The two designed a bracket system with tabs and rails using AutoCAD; then used the Plasma Cam to fabricate the important pieces. After using the software it took only 20 minutes to fabricate the bracket system. Reiter said they are learning much, explaining, "We can draft, make a 3D model and then go out and fabricate a life size project."

> ". . . the idea for the prototype class resulted from discussions about how to make the two separate classes more valuable—more real world with projects that had to be designed and fabricated by a team of workers."

AutoCAD teacher Mike Adams said the idea for the prototype class resulted from discussions on how to make the two separate classes more valuable—more real world with projects that had to be designed and fabricated by a team of workers. He said, "There is time to keep working on a project. More important, the welders can now run the computer aided software for the Plasma Cam." He explained that in today's world with changing technology "welding skills aren't always enough. You need to understand the computer that might be associated with a lathe or another machine."

Daniel Moschell is helping build what is called a "tote goat," a mini motorcycle to haul loads in rough terrain. He took a welding class in his freshman year to weld on equipment. He signed up for the Fab Lab because "you can work on a project from design through the end." He thinks the longer class time makes it possible "to get more done with a rhythm underway, since some projects just take longer to complete." Teammate Sam Fellman worked with Daniel and his brother Dustin on this project to handle the AutoCAD design. Previously the Moschell brothers designed and fabricated the Husky Logo sign at the entrance of the high school.

Kirstin Porter's dad teaches the adult night welding class for UAF's Community & Technical College. She'd been around welding for years when she started high school. She took Metals I in her freshman

year and the now sophomore jumped at the chance to take the Fab Lab. As she describes, "I just fell in love with it. I'm learning a lot. We can't go a day without learning something new." She said she started drafting this year and is excited about how you can start with a little drawing and just build on it." She added, "The class makes it possible for us to do fully dimensional projects."

There is no surprise about her long-term career goal when you read the determination on her face. She's looking at becoming a fabrication engineer—maybe in mining or on the pipeline.

Welding instructor Gary Hall said, "This prototype or pilot class for future program development is what is needed in the career and technical areas. We are dealing with building skill sets for today's hands-on jobs." He added that he and Adams wondered about the length of the class, but he's learned a lunch break makes it work.

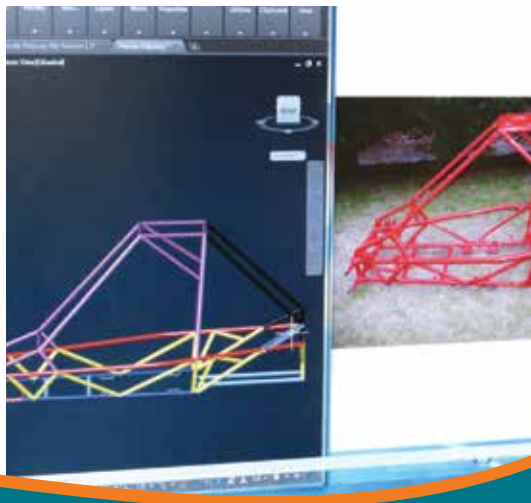
Porter echoes her fellow classmates when she states, "The class is working really well. You might get assigned a project, but then you also have the time to create and complete another."

Sophomore Timothy Webb was assigned to build a drop pan for the band saw—it's a practical solution to keep dripping oil off the Center's shop floor. Now he's working on designing a metal Fab Lab logo sign.

Tim Adams and Kyle Enderle teamed up to build a dune buggy. Enderle is a Metals III student and expert welder for the project as Adams has handled most of the AutoCAD design using a drawing of a 1985 buggy. He has worked on lengthening the front end and will use four wheeler parts, as well as fabricate new tubing.

Adams and Enderle said they like learning the skills for the real world and learning from hands-on experience. Enderle plans to use his knowledge and experience to build an aluminum boat. Long-term, he wants to be a contractor. For him, the class takes him from visualizing something to being competent in "figuring out how to write it down so you can build it." Adams concurs, "The class is great. It's a cool idea to imagine something and then just build it."

From top left clockwise:
3D radio controlled airplane; Sam Fellman working on a design with Daniel and Dustin Moschell; Harrison Kiser and Joseph Becker with roller stands; Husky sign installation; tote goat taking shape; Tim Adams using AutoCAD for dune buggy project; Kirstin Porter and coat rack; and far right Dima Kravets kneeling and Tim Webb with burn barrels.



Delta Chamber Luncheon

Representatives of Partners for Progress in Delta partners—Cooperative Extension Service (CES) and UAF Community & Technical College (UAF CTC)—were featured speakers at the January 21 Delta Chamber of Commerce Luncheon.

Karalee Watts, UAF CTC's marketing coordinator, talks about "Social Media for Business." Chamber members responding to a survey said they wanted more business classes and training opportunities. The results identified Marketing as the priority area for additional learning. Applied Business Program Chair Andy Anger and CES Economic Development Specialist Kathryn Dodge highlighted the types of programs that could be made available through their programs. After listening to comments from Chamber members, they will help develop a series of classes to meet the need in Delta.

Delta High School Senior Gets Slot in Underground Mining Training

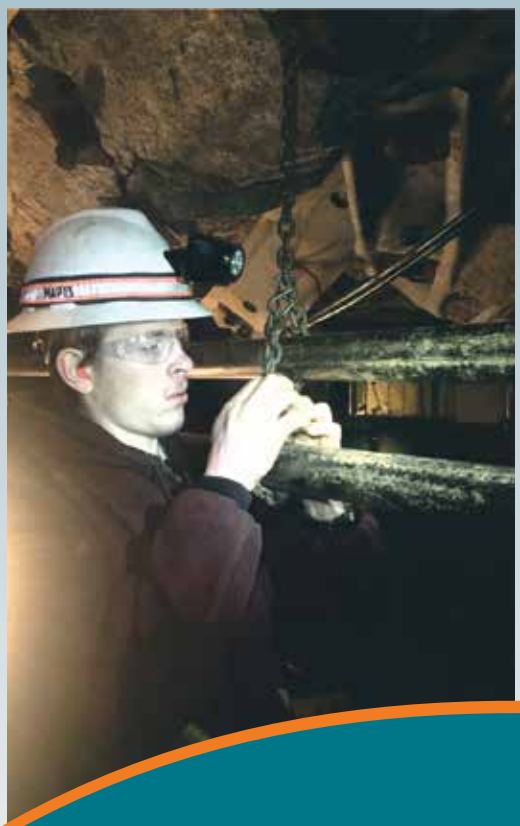
All images this page courtesy MAPTS

Nicolai "Nik" Prokoshev will graduate from Delta High School in May 2016 and he will graduate with an additional set of credentials. He received a slot in the January-February 2016 Underground Mining Training program offered through University of Alaska's Mining and Petroleum Training Services (MAPTS). The underground mine is located about 40 miles from Delta Junction. The University of Alaska has been leasing the camp for several years and has been offering intensive mining training at the site. The program runs four weeks—two weeks living at camp, a two-week break and then concludes with intensive two-weeks of underground training before graduation.

Nik said he wasn't quite sure how it would all work out when he was picked up at Delta's IGA Food Cache by MAPTS Executive Director William Bieber, but he was ready for a challenge. And challenge it was as he went on to share. According to Nik, he wasn't expecting all the hard work. In the first week he completed MSHA certification training and started learning the equipment He's at camp with instructors and other students from around the state—North Pole, Kenai, Juneau, Anchorage and McCarthy—and from Canada.

He begins his day with breakfast somewhere between 6:00 to 7:30 am; and attendance for the first class of the day is taken at 7:45 am with "diggers on." The second week he was operating equipment. "Diggers on" means you are wearing coveralls which is very helpful if you are out mucking. He said the simulators at the camp are pretty impressive. He admitted it took him six times to pass one of the tests, but there is a certain way to pick up muck and if you don't get it right you have a mess. He's been on the dozer, mucker and dump truck.

Before dinner each day, there is a safety meeting to discuss any violations or who needs help with anything. The all quiet period begins at 10 pm.



Nik described the instructors as "pretty educated and knowledgeable about the equipment being used." He added, "They have a lot of experience."

He explained that the first day focused on soft skills, something he said his "high school instructor emphasizes all the time at the Career Center."

His biggest surprise was the way the instructors teach the class. "It's all on topic so everyone helps anyone struggling with a topic before moving on with the next." He said the emphasis on teamwork has to do with reliability. He said he's learned how important it is at the work site to be able to answer, "Can another employee rely on me to be trusted, to be reliable and to show up for a job?"

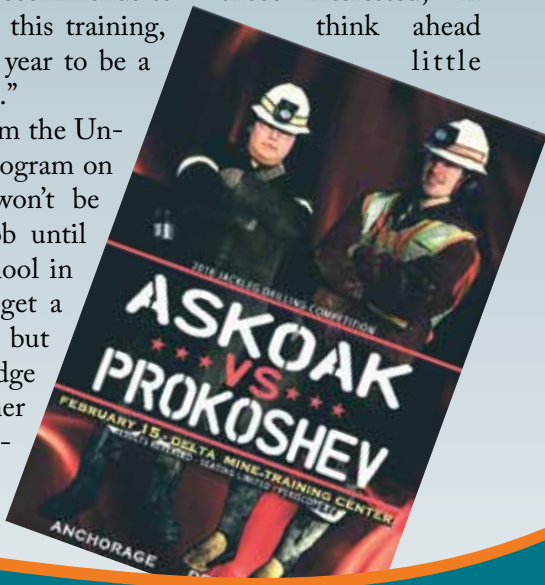
Nik said his challenge has been English as a Second Language. However, he thinks he is doing pretty well and he's glad most of the work to do is hands on and not essays which would take him more time. "We learn a tool and actually get to work with that tool, unlike some classes where you learn about something but never get to work with it," he said.

Nik explained the importance of the class and training. As he said, "If a boss hires you and you know the rules, then there is a smaller chance of being fired." He added, "It costs more to fire someone than to have them take this training to get it right the first time."

When asked about his thoughts on taking the class while completing high school, he said, "It's definitely not like high school. There's a bit more maturity expected." He also said missing his regular high school classes for a few weeks means "you have to take responsibility and get the work done to catch up."

Asked the following: Is this for everyone? Would you recommend this opportunity to other high school seniors? He said "It depends on the person. You have to have decent grades and consider what classes you have left to take to be able to graduate." Offering some advice, Nik believes that "If a senior has all core classes left to take, then you are more likely to fall behind." He recommends to those interested, "If you want to pursue this training, think ahead and plan for senior year to be a little easier. Find electives."

Nik graduated from the Underground Miner program on February 15. He won't be able to pursue a job until he finishes high school in May. "I might not get a slot at Pogo Mine, but I will have an edge for openings at other mines," he said optimistically.



CTC Update continued from cover

community who have been approved to teach university classes in Delta. He spent a January Saturday in Delta talking about the 10 key steps to get ready to teach a class. The 10 steps he recommends are:

1. Ask yourself what you expect the student to learn.
2. Break it down into basic skills and concepts and put it in writing.
3. Develop learning outcomes to answer: What outcomes? When should they learn? And ask yourself how you will know when they have learned it.
4. Establish a time line.
5. Select a teaching method to include lecture and lab/shop.
6. Ask yourself what you need to teach the class.
7. What is the role of the students? What do they have to do to learn the material?
8. How will you evaluate student progress?
9. Plan for feedback from students. How will you obtain it?
10. Develop a syllabus for the class.

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June 7 to 24, 2016

Monday through Friday, 7 am to 4 pm
Delta Career Advancement Center
Delta Junction, Alaska

This is the 11th annual academy offering awareness training and the opportunity to learn about career options. Skills learned can be transferred to many different industries.

- Construction is a drug-free environment and participants are tested.
- Participation in the academy is based on an application process and the training is **FREE** to successful candidates. Lunch is provided. Assistance with room and board for out-of-town participants might be available.
- You must be at least 17 years old. Candidates must choose between an emphasis in either operating equipment or in the mechanics of heavy equipment. **Space is limited.**
- Must possess a high school diploma or GED and a valid driver's license.

✓ **Pick up an application** at Delta Career Advancement Center, or visit the Partners for Progress in Delta website: **www.partnersforprogressindelta.org**

Application Deadline: **April 22, 2016, 1:00 pm**
Interviews will be completed by: **May 18, 2016**

An educational consortium funded through the Alaska Dept. of Labor and Workforce Development, Division of Business Partnerships, Partners for Progress in Delta helps operate the Delta Career Advancement Center.

Partners for Progress in Delta, Inc.

MISSION Partners for Progress in Delta, Inc., (PPD), an educational consortium in Delta Junction, Alaska, serves as a gateway for learning and training to help build and maintain Alaska's workforce.

GOALS

- Help Alaskans be competitive for jobs emerging from new developments and existing workforce opportunities in the area;
- Be a focal point for Alaskans who seek career advancement education and trai ning, academic degrees and continuing education credit;
- Help prepare secondary students for career options;
- Identify area needs for education and training for long-term employment; and
- Create and nurture long-term partnerships with agencies, businesses, organizations, the trades and government.

TOP PRIORITIES

- Create solid pre-training opportunities to help the success rate of future skilled workers.
- Customize intensive training academies to ready prospective workers for real-world opportunities.
- Deliver core and essential academic courses for those seeking university degrees.
- Develop a cadre of qualified local instructors.
- Identify options for encouraging and helping regional students participate in training.
- Build a stand-alone expansion to meet the needs of the community.

Partners for Progress in Delta, Inc. supports career pathway programs to help build Alaska's workforce. Partners for Progress helps operate the Delta Career Advancement Center and is a state-recognized Regional Training Center (RTC). Regional Training Centers deliver career and technical education and training to create a skilled workforce, and as such, it receives funding through the Technical and Vocational Education Program of the Department of Labor and Workforce Development, Division of Business Partnerships.

Delta Career Advancement Center located at 1696 N. Clearwater Avenue