



**Roughrider Area Career & Technical Center**  
**Directors Report**  
**November 2018**

**Meetings/Activities**

December 5 at 6:00 Klinefelter 106 – RACTC Board Meeting

December 4 at DSU Klinefelter – ITV Health Science Practicum

December 6 at DHS – Dickinson students Health Science Practicum

December 12 at 12:00 Washburn – Great Western Network Board Meeting

**High Technology Equipment**

The third rotation has been completed. The next rotation is scheduled for January 3. Pickup at schools will begin on December 19 and 20.

Below is a list and description of the training workshops that will be offered in the next few months. Please feel free to share this with your schools and instructors. All training will take place at Global Technology Inc (see address below) in Mandan. The training runs from 8:30am-4:30pm (CT) each day. Grad credit from UND will be available. Anyone can register by contacting Michele Renner.

<b>Module</b>	<b>Date(s)</b>	<b>Location</b>	<b>Status</b>
CNC Machining	December 17-18, 2018	Mandan	Cancelled no Registrations
Graphic Production	January 10-11, 2019	Mandan	Open for Registration

Michele Renner Global Technology, Inc

[www.gtind.net](http://www.gtind.net)

[Michele@gtind.net](mailto:Michele@gtind.net)

701-663-2968

**Second Semester Registrations**

RACTC classes available for second semester have been sent to area school Principals and the GNWCTC Williston and the MRACTC Bismarck for consideration.

## **Great Western Network, RACTC, GWNCTC and MRACTC Collaboration Meeting**

The Directors of the three virtual centers in Western North Dakota and Bill Strasser, Director Great Western Network, met at 9:00 November 20 to discuss the collaboration efforts between the 4 consortiums. Below are the agenda items and some of the discussions.

1. Course Codes & Names – The four consortiums have moved to a common PowerSchool. To make it easier for registration purposes we are changing a few course names so that we are all in line with common language. An example of one of the changes being proposed is the RACTC has Health Science 1 and II. The classes would then be called Medical Related Careers I and II, a more accurate description of the class for students.
2. Grading Scale in Power School – Schools, teachers and the centers all have different grading scales. One grading scale was discussed. This would not be practical, grading scales will follow member school policy and consortium teachers.
3. All Semester Courses (Full year will be split into 2 - ½ credit classes) – Some CTE classes are full year according to NDCTE guidelines. What schools do to offer credits to students falls back onto local school districts.
4. Registration Process, can more be done in the spring for PS? – The 4 consortiums moved to one PowerSchool last fall. This process took a lot of time for our two PowerSchool administrators. To ease the workload for next fall we will send out a spreadsheet to schools for preregistrations this spring. The upload process into PowerSchool then could be started earlier.
5. Billing Process – changes made for 2019-20 or keep the same? – In the past, the 4 consortiums sent separate invoices to schools for services. This past year schools received one bill for all memberships and student fees. As Directors we thought the process worked well. We hope it made it less confusing for schools.
6. Program Pathways/courses offered – Lyle Krueger, Director MRACTC Bismarck, is working on CTE pathways for the CTE Scholarship. This information will show up in registration guides this spring.
7. Welding Academy – Discussions were held concerning the welding academy. The MRACTC and GWNCTC did not budget funds for this activity. The welding academy will be discussed further.
8. LMS options – Learning management systems were discussed. Students are exposed to several different types including Moodle, Blackboard and Google classroom.

## **The Center for Distance Education/NDCTE Directors Meeting**

During the afternoon of November 20, CTE Directors from around the state, Wayde Syke, State CTE Director, and Dr. Alan Peterson, Director for the Center for Distance Education, and his staff met to discuss our roles in the delivery of CTE instruction.

The reason for the meeting is that the Center for Distance Education has been offering CTE classes not designed and approved by NDCTE. The Governor's office is discussing changes to the governance structure of educational entities in the state for more efficiency and where does the Center for Distance education fit. Is it under NDCTE

Each CTE center had fifteen minutes to present answering the questions below and five minutes for questions. At the end of the meeting the Center for Distance Education shared their educational structure.

1. How is our organization structured?
2. How are program decisions regarding curriculum made?
3. How is the "make or buy" decision made?
4. What does our organization do well and what do we use to measure our success?
5. What does our organization not do well and what do use as indicators?
6. Does our organization concern itself with duplication of courses? Explain.
7. What gaps do we see in the ND K-12 Education System, particularly in CTE-related areas?
8. What about this partnership can help address those gaps.
9. What should be pursued as part of a statewide design / initiative?

## **RACTC Website**

The RACTC website has been updated and now includes the RACTC by-laws and fee structure. The website can be found at <http://ractc.weebly.com/>.

## **Article of interest**

The laser engravers in our tech consortium are very popular with teachers and students in the RACTC. If you get a chance stop into the classrooms when they are at your school to watch the process.

## **Laser Engravers in Education**

The ways to use a laser engraver in education can be underrated, often because the technology is overshadowed by flashy technologies like 3D printers or gimmicky Kickstarter ventures.

Laser systems are generally one of the [easier pieces of equipment students can learn](#). Designs are produced in a vector drawing package, sent to the machine via a printer driver, and the laser system does the rest.

The speed and power of a laser allows for quick production of designs so you can get more students on the machine in a shorter amount of time.

Perhaps the biggest advantage of a laser cutter is its *versatility*. Because a laser cutter's power allows it to cut through a wide range of materials, it's one of the most versatile pieces of fabrication equipment a school can have. The applications, from K-12 to community college to university, are endless.

### **Art & Design: Appliqués and Fabric Cutting**

With a simple CAD design file, students can cut patterns, produce appliqués, and engrave fabrics. These are common applications found in Art and Design programs where fashion design students create intricate patterns and custom fabrics, or art students construct unique [papercut designs](#).

K-12 educators often use laser cutters for creating graphics for custom school or sports teams' apparel, custom patches for student varsity jackets, or branded appliques that can be sold in the school store.

### **Graphic Imaging**

Expand your design possibilities by printing graphics on new materials. This video shows how you can easily take a photo or scanned image and etch it onto a piece of wood. The same can be done on thin metals, ceramic, glass, brick or even rubber.

Some laser cutters, like Universal Laser Systems, feature software that will select the optimum settings for printing your image based on the material you have selected to etch.

### **Packaging Development**

CTE Business / Marketing and Graphic Communications programs are increasingly turning toward laser cutters to augment their curriculum. Students are empowered to create product packaging for their business ventures without the need for dies or tools.

### **School Branding / Personalization**

A laser cutter has its benefits for student learning, but it also brings major benefits to the school.

Create custom awards, trophies and plaques for student and faculty awards ceremonies. Add a layer of customization to tchotchke sold in your school store or at school fundraisers, like mugs, clothing, rubber stamps, and other memorabilia.

We've seen some schools take branding opportunities a step further. [Lynchburg City Schools](#) in Virginia uses their laser cutter to etch each school's name and logo on the Chromebook laptops available through its 1:1 technology program. Why? It's saving money. It used to cost the county more than the cost of a single laser system to engrave Chromebooks each year. Now, they can cut costs and complete the engravings in as little as two weeks.

## **Signage**

Walk into a school – any school – and you'll see signs everywhere: signs for each classroom, lab, office, after school club, sports team, etc. Many schools use laser cutters to create their own custom signage throughout the school.

Here's a great example of an LED backlit laser engraved sign for the Engineering Lab at Anne Arundel Community College:

While this example is a little more complex (Arduino-powered, LED backlit), schools often cut out numbers and letters from wood or acrylic to simply hang on their doors.

## **Woodworking Machinery**

The great thing about laser cutting in a woodworking or engineering program is that you can cut, mark, image and engrave all with the same machine. This saves space in your shop or lab and decreases the student learning curve.

We've seen many different creative uses of laser cutters for woodworking. In Henrico County Virginia, [Pocahontas Middle School](#) students create gumball machines out of balsa wood and [Highland Springs High School](#) students create model airplanes out basswood.

The possibilities really are endless with laser cutting. It gives you a wide range of materials to work with, projects of varying difficulty levels, and opportunities to benefit both students and educators.