

Testimony
Interim Education Committee
Department of Career and Technical Education
September 21, 2015

Mr. Chairman and members of the committee, my name is Wayne Kutzer, Director of the Department of Career and Technical Education.

I will talk about access to CTE, how it is delivered to schools and students across the state and the impact on school districts and how our policies for programming and funding impact that delivery. First let me talk about how our Department operates, and what we do. We are governed by a nine member Board, six appointed by the Governor from six regions across the state and three legislated members, the list of members is in your materials. The CTE Board operates much like a school board in that it sets our policies including funding to schools, programming that we support, teacher certification, and our funding priorities.

The Department of Career and Technical Education focuses on technical assistance to schools, programs, teachers, and student organizations. We help CTE programs adapt to industry standards, which we require if they are available and appropriate; assist programs in selecting curriculum that matches those standards; and we evaluate programs every five years with either an onsite visit or through a desk audit. We also provide technical assistance to middle schools, some elementary programming in STEM and entrepreneurship, as well as all of the public and tribal two year campuses. We assist teachers in the regular certification process, set licensing requirements for industry professionals in the trades, health sciences and information technology areas,

who want to teach at the secondary or postsecondary level, and provide the education and training they need to become instructors. We also provide professional development throughout the year for CTE teachers and administrators. An essential component of the technical assistance is providing leadership and coordination for the Career and Technical Student Organizations that operate in CTE program areas. Our staff also verifies and approves funding that goes to schools and institutions for their CTE programs.

The CTE programs fall into these areas, which is how we are staffed: Agriculture, Business, Career Development, Family and Consumer Sciences, Health Sciences, Information Technology, Marketing, Technology and Engineering, Trade, Industry, & Technical. T&I is further separated out into these areas on the slide.

If you want to receive funding for a CTE program this slide outlines the seven requirements.

- Credits
 - A minimum of two credits per year must be taught (Trade & Industry and Health Sciences need three credits)
- Class Size (9-12 enrollment)
 - Minimum of seven students in each course for schools with more than 100 students
 - Minimum average of seven students per course for schools with 50-100 students
 - No minimum for schools with fewer than 50 students
- CTE certified teacher
- Approved Curriculum
 - Must be based on state, national, or industry standards for each program area
- Facilities and equipment
- Advisory Committee
 - Committees must meet, at a minimum, two times a year to receive funding

The state funding provided to schools is both an incentive for schools to offer quality CTE programming and helps to offset the higher cost of operating a CTE program.

As a school, if you have an approved CTE program we will reimburse your school based on the salary of your CTE instructor. For all schools, that rate is 27% except for Family and Consumer Sciences which is at 19%. We are working at raising FACS to the full 27%. Funding for approved teacher travel is at 30% when it is for professional development or a Career and Technical Student Organization (CTSO). Career Development Counselors are funded at 35%. At Area Centers the rate is 40% of all approved programs and costs. Area Centers are funded at a higher rate to incentivize cooperation between schools which means more access to more programs that especially smaller schools are not able to provide on their own.

Delivery of CTE Programming - Slide

In a rural state like ours it is a challenge to provide access to CTE for schools and students across the state. Distance has always been the chief obstacle, especially in delivery of a hands-on curriculum like CTE.

There are 148 high school districts in the state, each one must offer two credits in CTE and they do.

There are 11 Area Centers in the state, 93 member Districts they were created in an effort to provide more programming to more schools.

There are also Cooperative Arrangements that provide incentives to schools who offer CTE programs, either through interactive video (ITV), online, or through sharing

instructors with their neighbor district down the road or across the state. We provide an additional 4% for each school that they send their CTE program to.

Emerging Technology is another cooperative effort between schools that rotate Emerging technology equipment on a four or six week basis to all member schools.

Area Centers

Here is a deeper look into Area Centers. In the handouts is a map that shows where they are, the member districts and the programs that they offer. A central tenant for Area Centers is all member districts must have access to all Area Center programs. They must offer a minimum of five CTE programs and have a minimum of three member districts.

Area Centers were created, the first ones – five in total - in the mid 1970's. They were attendance centers where students attended for part of the day and received all their academic courses at their home school. It is a model that is pretty wide spread across the country and effective in providing schools many more CTE program options than they could themselves – it was a cooperative effort. In 2007, a new Area Center concept was developed – a virtual Area Center. There are now six across the state – no physical building but using the classroom and shops of existing schools and benefitting from the cooperative effort that make Area Centers a viable delivery option for member districts.

Cooperative Arrangements

In the 2014-15 school year there were 79 schools participating in 37 different CTE courses delivered through interactive video (ITV) and 63 schools participating in 29

different online CTE courses, serving a total enrollment of 1,230 students. There is a purple handout in your materials that lists all the distance delivered CTE courses through Coops.

These numbers have increased over last year and while these are good numbers there is still access and availability problems in many local schools to offer a variety of CTE programs. For the ND CTE Scholarship, students must take four CTE credits and two or more credits in a single area of interest - a Coordinated Plan of Study - to qualify for the CTE scholarship or two credits in a coordinated plan for the Academic scholarship as a replacement for foreign language. We want to expand the offerings a student has available. As a state we require students, before they leave the eighth grade, to make a four year education plan based on their goals and interests but, if as a state, we cannot make those classes that are of interest available, we are missing a great opportunity for student learning and student engagement.

A great example of just what districts and teachers are capable of when it comes to distance learning is the welding program offered through North Valley Area Career and Technology Center, in Grafton. The stipulation was that it had to offer the real hands-on learning experience, real-time full interaction with all students, cover the full course objectives, and students had to be assessed the same as students taking it normally. It started with a \$150,000 Creating "Access for CTE" grant that was made available to any district or Area Center that could come up with a plan that would offer Auto Tech, Construction, or Welding – all very hands-on - through the ITV system.

North Valley put together a great proposal and they are now in their third year. The course is being delivered to Walhalla, Fordville-Lankin, Park River, and new this year to Divide County in Crosby. Each lab or shop is a fully equipped welding lab and equipped with monitors and cameras so the teacher and students see each other in real time.

Emerging Technology

Emerging Technology consortiums rotate high tech type equipment modules between schools. It continues a theme we have in CTE that sharing, whether it's programs, equipment or teachers, it is an efficient way to provide more access. We currently have seven consortiums involving 99 schools participating in Emerging Technology. There is a map in your materials showing the location of the consortiums. The state funding is for purchasing equipment and some professional development for teachers. The schools provide local funding for the majority of the teacher training, the transportation cost to move it between member schools, administrative costs to track usage, and do all the scheduling. These modules supplement existing curriculum and are integrated by the teacher, they are not meant to be a standalone experience for students. You have a list of the modules by consortiums, in your handouts.

CTE Coordinated Plans of Study - Handout

The advent of the career planning process and ND Scholarships brought the increased importance of the Coordinated Plans of Study. Coordinated Plans of Study are based on the 16 Career Clusters and show student's pathways within Clusters. They are a more focused "path" attempting to provide deeper, more rigorous instruction in a

career area. This also helps to bolster the concept that if students are interested and engaged in their learning they see the relevance in what they are learning.

In many respects the increased access to CTE programming brought about by both expansion of Area Centers and Cooperative Arrangements have helped to address some of the access to CTE classes that happens in small schools. This is important not only from a student's career planning process but also in qualifying for the ND scholarships.

CTE courses are a part of both the academic and CTE scholarships. If you are qualifying for the Academic scholarship you can take either two credits of foreign language, Native American Language, Sign Language or two credits of CTE in a Coordinated Plan of Study. Additionally one credit from any of the just mentioned and then five additional credits.

For the CTE Scholarship you need to take a minimum of four credits in CTE, two of which must be from a Coordinated Plan of Study.

To understand how they work you have a handout that shows all the Coordinated Plans of Study. Let me explain them.

To help students, counselors, teachers, and parents understand the career planning process so that they are better prepared to do or assist in the career planning process, our agency has a focus on Career Development and career planning. If you noticed when I listed the program areas we have, one was Career Development. We also provide funding for Career Development Counselors. There are 92 Career Development counselors across the state. They are high school counselors who have

taken a couple of extra courses and complete an annual Program of Work. They also provide focus on career planning, which is one of the three counseling domains along with academic and social/emotional counseling. We also provide the education and training needed for Career Advisors to become certified.

Our agency also houses the Career Resource Network, they publish the Career Outlook magazine for all 7 – 12 grade students in the state. They have four regional Career Resource Coordinators who provide education and training for RUPrepareND, a premier online career planning tool.

RUPrepareND.com is a world class online career planning delivery system that is available to all students, teachers, and parents in the state. Through RUPrepareND students can log on, as part of a class, working with a counselor or individually. They can discover their strengths and interests, create an electronic plan of study that will not only help a student plan the courses they should take, but will also track their progress towards the ND Scholarship. They can research financial aid and postsecondary education options. It has a powerful ACT preparation software package called TestGear that will assist a student in getting ready for the ACT test, for free. It has resume writing and job interview preparation tools. Through a partnership with the Bank of ND, they provide the statewide funding and we provide the management and training through our Career Resource Network which has trainers in the four quadrants of the state that work directly with teachers and schools in implementing RUPrepareND in their school, thereby giving students a tool to use in investigating careers.

The CRC's also provide training and support for Roads to Success which is a complete 7 – 12 grade level specific career planning curriculum. It comes with lesson plans and is even totally scripted for easy use in any classroom.

Lastly I want to touch on certification of industry professionals to become classroom teachers through a program we developed with VCSU, called Transition to Teaching. Individuals in the trades – (slide list) auto, welding, graphic arts, aviation; health sciences; and information technology go through this VCSU run program which provides industry professionals some of the foundational classroom skills needed to be effective in the classroom. It is a year in length, while they are teaching, with five face to face seminars with a school based mentor and a content based mentor. We have had good success in the retention of teachers who went through the program and it has expanded to include other academic content areas as well.

CTE also provides funding and training for teacher certification in specific IT areas – such as networking or GIS. In the Technology and Engineering Education program area it is for Engineering by Design (EBD) and Project Lead the Way (PLTW) all are part of the teachers certification requirements to teach those specific courses. As mentioned before we also provide certification training for Career Advisors.

Mr. Chairman and members of the committee, this highlights some of the specific areas involved in Career and Technical Education in North Dakota. I would be glad to answer any questions that you have.

Interim Education Committee

September 21, 2015



ND Department of Career and Technical Education
www.nd.gov/cte

CTE State Board

- ▶ Dr. Brian Duchscherer, Chair, Supt. Carrington
- ▶ Debby Marshall, Vice-Chair, Towner
- ▶ Dr. Jeff Lind, Asst. Supt. Mandan
- ▶ Sonia Meehl, School Board Oakes
- ▶ Val Moritz, - School Board Valley City
- ▶ David Richter, - School Board Williston
- ▶ Kirsten Baesler, Superintendent of Public Instruction
- ▶ Cheri Giesen, Executive Director Job Service North Dakota
- ▶ Dr. Mark Hagerott, - NDUS Chancellor

Department of Career and Technical Education

- ▶ Technical Assistance
 - Programs
 - Industry Standards
 - Curriculum suggestions
 - Program Evaluations (5 year cycle)
 - Teachers
 - Certification – traditional and alternative
 - Professional Development
 - Career and Technical Student Organizations
 - Leadership and coordination
- ▶ Funding

Program Areas

- Agriculture
- Business
- Career Development
- Family and Consumer Sciences
- Health Sciences
- Information Technology
- Marketing
- Technology and Engineering
- Trade, Industry, & Technical

Secondary Trade, Industry, Technical (T&I)

- ▶ Auto Collision
- ▶ Auto Technology
- ▶ Aviation Technology
- ▶ Commercial Art
- ▶ Construction Tech.
- ▶ Culinary Arts
- ▶ Diesel Technology
- ▶ Drafting Technology
- ▶ Electronics Tech.
- ▶ Facilities Maintenance
- ▶ Graphic Arts
- ▶ Machine Tooling
- ▶ Recreational Engines
- ▶ Video Production Tech
- ▶ Welding Technology

CTE Program Approval

- ▶ Credits – A minimum of two credits per year must be taught (Trade & Industry and Health Sciences need three credits)
- ▶ Class Size (9–12 enrollment)
- ▶ CTE certified teacher
- ▶ Approved Curriculum
- ▶ Facilities and equipment
- ▶ Advisory Committee
 - Committees must meet, at a minimum, two times a year to receive funding

Funding to Schools

- ▶ CTE Reimburses
 - 27% on CTE teacher salary
 - 30% on program travel
 - Professional Development
 - Student Organization
 - 35% on Career Development Counselor
 - 40% at Area Centers

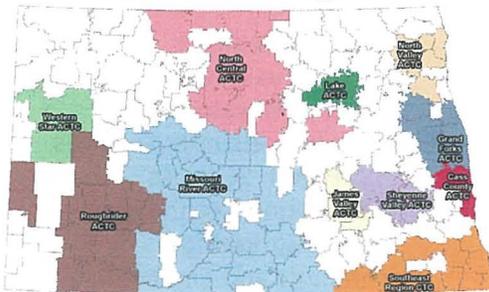
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Delivery of CTE Programming

- ▶ Single Districts
 - 148 high school districts
- ▶ Area Career and Technology Centers
 - 11 Area Centers – 93 Districts
- ▶ Cooperative Arrangements (Coops)
 - ITV
 - Online
 - Shared Instructors
- ▶ Emerging Technology Consortiums
 - 7 Consortiums – 97 schools

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Area Career and Technology Centers



CTE Cooperative Arrangements

Courses offered between schools either ITV or online

- ▶ 79 schools participating in ITV
 - 37 CTE course offerings
- ▶ 63 schools participating in online
 - 29 CTE course offerings
- ▶ 1,230 students taking online and ITV CTE courses

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Distance Delivered Welding at North Valley ACTC

- ▶ Maintain hands-on experience
- ▶ Real-time interaction with all students
- ▶ Full course objectives – not watered down
- ▶ All students take same assessments

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Distance Welding

- ▶ North Valley Area Career and Technology Center
 - Walhalla – 5 + 5 students
 - Fordville–Lankin – 2 students
 - Park River – 1 students
 - Divide County – 5 students
- ▶ All equipped with cameras, monitors and welders
- ▶ Students in local welding lab with teacher

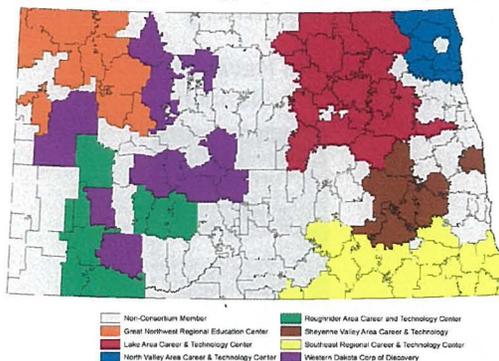
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Emerging Technology Consortiums

- ▶ Rotate Emerging Technology Equipment between member schools
 - 7 Consortiums
 - 99 schools

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Emerging Technology Consortium Memberships



Emerging Technology Consortiums

- ▶ State funding
 - Equipment
 - 20% Teacher Professional Development
- ▶ Local funding
 - Professional Development
 - Transporting equipment between schools
 - Administration/scheduling
- ▶ Equipment supplements existing curriculum in any area

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Emerging Technology Modules

Corp of Discovery - Kenmare	Wahn/Pembina Tech Coop - NVACTC	Southeast High Tech-SRACTC	Roughrider RACTC	The Learning Coop- LACTC	Heart of the Valley SVACTC	GRWREC - Williston
Bio-Chemistry	3D printer	3D Printer/ Plastic Molding	BioChem	3D Printer	3D Printer	Bio-Chemistry
CNC Embroidery	Alternate Energy	Alternate Energy	CNC Embroidery	Alternate Energy	Alternate Energy	CNC Embroidery
CNC Plasma Cutting	Bio Tech	Aviation	CNC Router	BioTech	Bio-Chem	CNC Router
CNC Mill	CNC Embroidery	Bio/Genetics	GIS	CNC Embroidery	CNC Embroidery	Electronics
CNC Routers	CNC Lathe	CNC Embroidery	Laser Engraver	Dye Sublimation	CNC Mill	GPS
Electronics	CNC Mill	CNC Mill	Mechanical/Hydraulic/Pneumatic	GPS	CNC Router	Graphics Production
GPS	Electronics/Pneumatics/Machines	CNC Router		Hydraulics	Electronics/Hydraulic/Mechanical	
Laser Optics	Laser Engraver	Electronics		Laser Engraver	Flight Simulator	LASER
Laser Engravers	Laser Technology	GPS		Residential/ Electronics	GPS	Mechanical/Hydraulic/Pneumatic
Mechanical/Pneumatics/Hydraulics	Plasma Cutter	Mechanical/Hydraulic/Pneumatic		STEM Kits	Laser Engraver	Robotics
Robotics	Plastic Molding	Laser Engraver		Vinyl Cutting/Printing	Laser Technology/ Fiber Optics	Vinyl Cutting/Printing
Vinyl Cutter/Printing	Robots	Laser Technology		Virtual Welder	Plasma Cutter	
	Router	Robotics				
	Vinyl Cutting/Printing	STEM Cart				
		Vernier Science Workshop				
		Video Editing				
		Vinyl Cutter				

CTE Coordinated Plans of Study

- ▶ Based on CTE program areas and how they align with the 16 National Career Clusters
- ▶ Coordinated Plans of Study are Pathways within the Cluster
- ▶ Pathways provide more focused instruction
- ▶ Increases relevance and rigor
- ▶ Integral to ND Scholarships

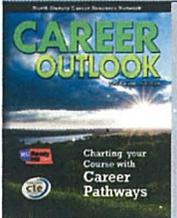
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ND CTE - Career Development

- ▶ Career Development Programs
 - Career Development Counselors
 - Program of Work
 - Individual Plans of Study to improve the career planning process for students
 - Career Advisors certification training

CTE Career Planning

- ▶ Career Resource Network
 - Career Outlook Publication



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CTE Career Planning

- ▶ Career Resource Coordinators (CRC) in 4 regional locations
- RUReadyND.com
 - Statewide online career planning tool
- Roads to Success
 - Career planning curriculum




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CTE Services

- ▶ Transition to Teaching/Clinical Practice
 - Certification program to license industry people at secondary and postsecondary level
 - A process to grow your own teachers
- ▶ Teacher Certification/Training
 - Information Technology
 - Engineering By Design
 - Project Lead the Way
 - Career Advisors

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Secondary Trade, Industry, Technical (T&I)

▶ Auto Collision	▶ Electronics Tech.
▶ Auto Technology	▶ Facilities Maintenance
▶ Aviation Technology	▶ Graphic Arts
▶ Commercial Art	▶ Machine Tooling
▶ Construction Tech.	▶ Recreational Engines
▶ Culinary Arts	▶ Video Production Tech
▶ Diesel Technology	▶ Welding Technology
▶ Drafting Technology	

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CTE Services

- ▶ Transition to Teaching/Clinical Practice
 - Certification program to license industry people at secondary and postsecondary level
 - A process to grow your own teachers
- ▶ Teacher Certification/Training
 - Information Technology
 - Engineering By Design
 - Project Lead the Way
 - Career Advisors

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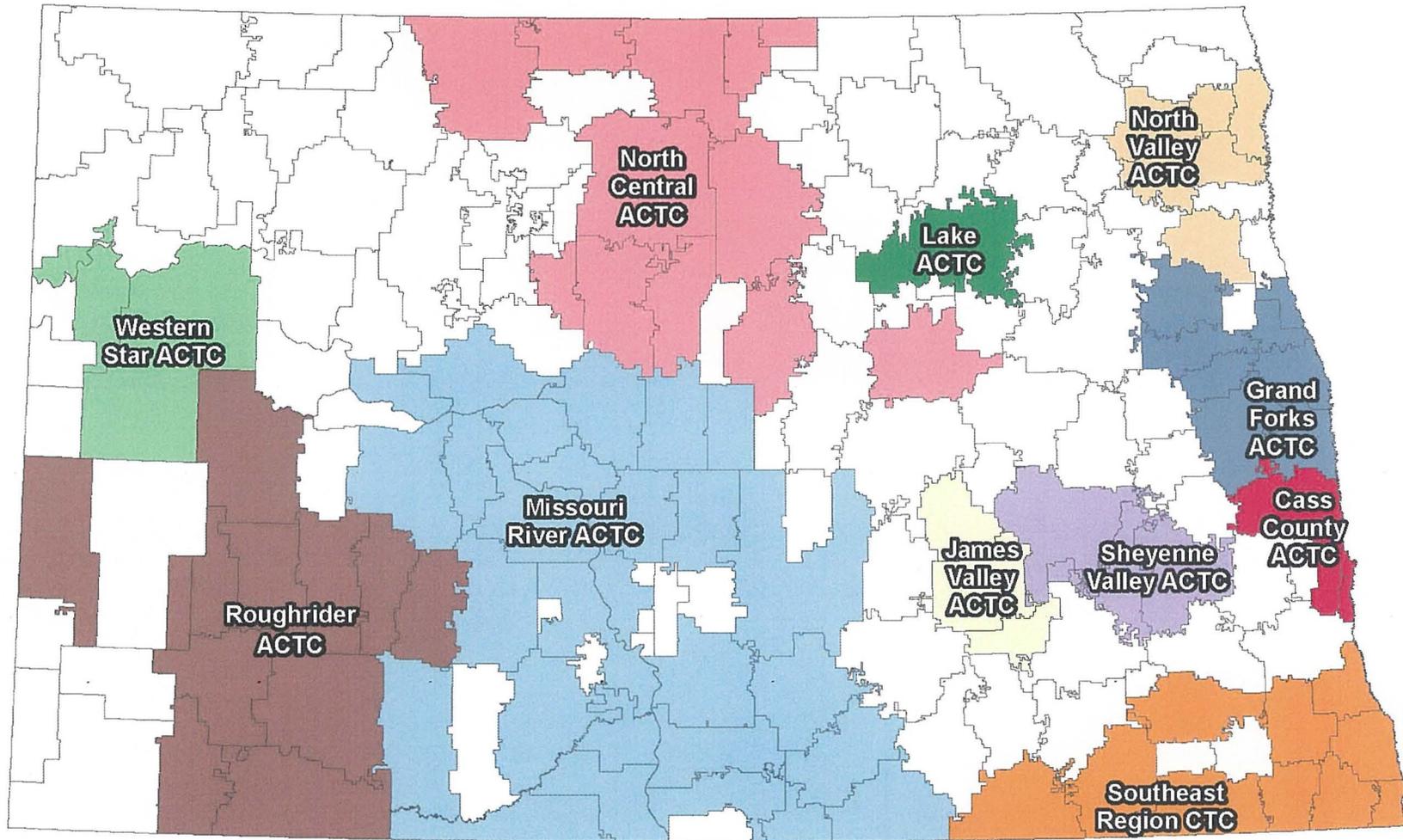
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Area Career and Technology Centers



**Area Career and Technology Centers
Member Districts (93)
Programs Offered
2015-2016**

Cass County Area Career & Technology Center (Virtual)

Fargo, Northern Cass, West Fargo

PROGRAMS: Aviation Technology, Agriculture, Health Science, Welding Technology, Diesel Technology

Grand Forks Area Career & Technology Center (Virtual)

Central Valley, Grand Forks, Hatton, Hillsboro, Larimore, May-Port CG, Northwood, Thompson

PROGRAMS: Health Sciences, Information Technology, Automotive Technology, Agriculture, Aviation Technology

James Valley Area Career & Technology Center - Jamestown

Jamestown, Montpelier, Pingree-Buchanan

PROGRAMS: Agriculture, Business Education, Career Development, Childcare, Health Sciences, Information Technology, Marketing, Machining Technology, Automotive Collision, Automotive Technology

Lake Area Career & Technology Center -Devils Lake

Devils Lake Central, Minnewaukan, School for the Deaf

PROGRAMS: Business Education, Career Development, Food Service, Childcare, Information Technology Health Sciences, Marketing, Welding Technology, Construction Technology

Missouri River Area Career & Technology Center (Virtual)

Ashley, Beulah, Bismarck, Center-Stanton, Elgin-New Leipzig, Flasher, Garrison, Goodrich, Hazen, HMB (Hazelton, Moffit, Braddock), Kidder County, Linton, Mandan, McClusky, Napoleon, New Salem, Selfridge, Solen-Cannonball, Standing Rock, Strasburg, Turtle Lake-Mercer, Underwood, Washburn, White Shield, Wilton, Wing, Wishek, Zeeland

PROGRAMS: Health Sciences, Information Technology, Marketing, Electronics Technology, Welding Technology, Aviation Technology

North Central Area Career & Technology Center (Virtual)

Bottineau, Drake, Dunseith, Harvey, MLS (Mohall, Lansford, Sherwood), New Rockford, Rugby, St John, Sawyer, TGU (Towner, Granville, Upham), Velva, Westhope

PROGRAMS: Health Sciences, Welding Technology, Construction Technology

North Valley Area Career & Technology Center- Grafton

Drayton, Grafton, Inkster (Midway), Park River, St. Thomas, Valley-Edinburg

PROGRAMS: Agriculture, Business Education, Career Development, Health Sciences, Marketing, Machining Technology, Welding Technology, Automotive Technology, Construction Technology

Roughrider Area Career and Technology Center (Virtual)

Beach, Belfield, Dickinson, Glen Ullin, Hebron, Hettinger, Killdeer, Mott-Regent, New England, Richardton-Taylor, Scranton, South Heart

PROGRAMS: Agriculture, Welding Technology, Business Education, Career Development, Health Sciences, Information Technology, Marketing

Sheyenne Valley Area Career and Technology Center – Valley City

Barnes County North at Wimbledon, Maple Valley-Tower City, Valley City

PROGRAMS: Construction Technology, Automotive Technology, Career Development, Health Sciences, Information Technology, Welding Technology, Commercial Art,

Southeast Region Career & Technology Center - Wahpeton and Oakes

Campbell-Tintah, Ellendale, Fairmount, Hankinson, Lidgerwood, Lisbon, Oakes, Richland-Colfax, Sargent Central, Wahpeton, Wyndmere

PROGRAMS: Agriculture, Childcare, Marketing, Video Production, Automotive Technology, Health Sciences, Restaurant Management, Construction Technology, Career Development, Technology and Engineering,

Western Star Area CTC (Virtual)

Alexander, Trenton, Watford City, Williston

PROGRAMS: Automotive Technology, Construction Technology, Health Sciences, Welding Technology, Agriculture

ND Department of Career and Technical Education

Cooperative Arrangements

ITV 2014-2015

9/15

<u>Transmitting School</u> (ITV)	<u>Receiving School</u>	<u>Course</u> <u>Code</u>	<u>CTE Programs</u>	<u>Students</u> <u>Enrolled</u>
Missouri River ACTC	Ashley Public School	01023	Ag III	2
	Berthold Public School	07033	Health Careers	8
		17410	Exploration/Petroleum Industry	1
	Beulah High School	07033	Health Careers	4
		07021	Sign Language	1
	Center-Stanton Public School	07033	Health Careers	1
	Elgin-New Leipzig Public School	07033	Health Careers	2
		07034	Prevention/Care of Athletic Injury	1
		07021	Sign Language	1
	Flasher Public School	01034	Ag Sales & Serv	2
		01053	Applied Crop Science	2
		17410	Exploration/Petroleum Industry	3
	Garrison High School	07033	Health Careers	5
	Hazelton-Mof-Brad Public School	01024	Ag Sales & Serv	1
		01023	Ag III	1
		01053	Applied Crop Science	1
		07021	Sign Language	2
	Hazen High School	17410	Exploration/Petroleum Industry	1
	Max Public School	07033	Health Careers	8
	New England Public School	07033	Health Careers	1
	New Salem-Almont High School	01023	Ag III	1
		17410	Exploration/Petroleum Industry	4
		07033	Health Careers	8
		07034	Prevention/Care of Athletic Injury	4
	RRACTC	07033	Health Careers	1
	Selfridge Public School	07023	Sign Language II & IV	1
	Turtle Lake-Mercer Public School	17410	Exploration/Petroleum Industry	1
	Underwood Public School	07023	Sign Language III & IV	1
	Wilton Public School	01023	Ag III	2
	Wing Public School	07021	Sign Language I & II	2
Zeeland Public School	07023	Sign Language III & IV	2	
	17410	Exploration/Petroleum Industry	2	
Devils Lake High School	Maddock Public School	10511	PLTW Intro to Eng Design	3
Glen Ullin Public School	Richardton-Taylor High School	14010	Accounting I	8
		14011	Accounting II	8
GFACTC	Central Valley High School	07045	EMS	5
	Larimore High School	17812	Aviation	1
	Hatton High School	17812	Aviation	1
	May-Port CG High School	01011	Intro to Agriculture	6
		01012	Foundations of Agriculture	2
Hebron Public School	Center-Stanton Public School	09130	Parenting	4
	Elgin-New Leipzig Public School	09026	Child Develop	1
		09130	Parenting	1
	Halliday Public School	09026	Child Develop	4
		09130	Parenting	4
	Hazelton-Mof-Brad Public School	09026	Child Develop	3
		09130	Parenting	5
	Ray Public School	09026	Child Develop	4
		09130	Parenting	4
	Turtle Lake-Mercer Public School	09026	Child Develop	1
09130		Parenting	1	
LaMoure Public School	Ellendale Public School	01035	Ag Business Mgmt	6
		01023	Agrisci Tech III	6
	Litchville-Marion High School	01035	Ag Business Mgmt	3
		01023	Agrisci Tech III	3
Stanley High School	01035	Ag Business Mgmt	2	

<u>Transmitting School</u>	<u>Receiving School</u>	<u>Course Code</u>	<u>CTE Programs</u>	<u>Students Enrolled</u>	
(ITV)	LaMoure Public School	01023	Agrisci Tech III	3	
	Strasburg High School	01035	Ag Business Mgmt	2	
ND School for the Deaf	Beulah High School	01023	Agrisci Tech III	2	
		07021	Sign Language I	1	
	07022	Sign Language II	1		
	Hazelton-Mof-Brad Public School	07021	Sign Language I	2	
		07022	Sign Language II	2	
	West Fargo High School	07021	Sign Language I	2	
North Central ACTC	Central Valley Public School	07022	Sign Language II	2	
		07045	Emer Med Svcs	5	
	Drake High School	07034	Prevention/Care of Athletic Injury	5	
	Edgeley Public School	07033	Health Careers	1	
	Halliday Public School	07045	Emer Med Svcs	2	
	Litchville-Marion High School	07045	Emer Med Svcs	1	
	Maddock Public School	07045	Emer Med Svcs	9	
	Rugby	07033	Health Careers	2	
	04240	Sports and Entertainment Marketing	3		
	St. John High School	07033	Health Careers	10	
	Stanley High School	07045	Emer Med Svcs	2	
	Surrey Public School	07045	Emer Med Svcs	1	
		07033	Health Careers	6	
	07034	Prevention/Care of Athletic Injury	1		
	TGU Towner Public School	07045	Emer Med Svcs	6	
07034	Prevention/Care of Athletic Injury	4			
North Valley ACTC	Cavalier Public School	04111	Entrepreneur	1	
		04240	Sports and Entertainment Marketing	2	
	Fordville-Lankin Public School	17236	Welding Tech I	2	
		07033	Health Careers	2	
	Midway Public School	07032	Nurse Assistant	1	
		04111	Entrepreneur	1	
	North Border-Pembina Public	07033	Health Careers	1	
		04240	Sports and Entertainment Marketing	2	
		17236	Welding Tech I	4	
		Park River Public School	17236	Welding Tech I	1
			04240	Marketing	4
		St. Thomas High School	07033	Health Careers	2
North Border - Walhalla	17236	Welding Tech I	4		
	01021	Agrisci Tech I	2		
Roughrider ACTC	Ashley Public School	01022	Agrisci Tech II	2	
		07036	Medical Terminology	2	
	Beach High School	01021	Ag Science	4	
		07032	Nurse Assistant	1	
		07033	Health Careers	5	
	Belfield Public School	07036	Medical Terminology	5	
		07032	Nurse Assistant	2	
		01021	Agrisci Tech I	5	
	Berthold Public School	01022	Agrisci Tech II	4	
		27180	Web Design	2	
	Bowbells Public School	07035	Adv Hlth Careers	1	
	Bowman Co Public School	07033	Health Careers	10	
		07036	Medical Terminology	5	
		07032	Nurse Assistant	4	
		07034	Prevention/Care of Athletic Injury	1	
		09026	Child Develop	1	
		Center-Stanton Public School	07035	Adv Hlth Careers	23
	Dickinson High School	37080	CTE Health Careers	54	
07036		Medical Terminology	18		
Elgin-New Leipzig Public School	07036	Medical Terminology	2		
	07035	Adv Hlth Careers	4		
Glen Ullin Public School	07033	Health Careers	5		
	04240	Marketing	7		
	07036	Medical Terminology	4		
	07034	Prevention/Care of Athletic Injury	7		

<u>Transmitting School</u> <u>(ITV)</u>	<u>Receiving School</u>	<u>Course</u> <u>Code</u>	<u>CTE Programs</u>	<u>Students</u> <u>Enrolled</u>	
Roughrider ACTC	Hazelton-Mof-Brad Public School	01021	Agrisci Tech I	1	
		01022	Agrisci Tech II	1	
	Hebron Public School	07036	Medical Terminology	1	
		Hettinger Public School	07033	Health Careers	2
	Killdeer Public School		01021	Ag Science	8
		07034	Prevention/Care of Athletic Injury	1	
		07035	Adv Hlth Careers	1	
		07033	Health Careers	4	
		07036	Medical Terminology	2	
		07032	Nurse Assistant	5	
		07034	Prevention/Care of Athletic Injury	2	
	MRACTC	01021	Ag Science	15	
	Mott High School	07034	Prevention/Care of Athletic Injury	1	
	New England Public School	07036	Medical Terminology	1	
		07034	Prevention/Care of Athletic Injury	1	
	New Salem-Almont High School	01021	Agrisci Tech I	1	
		01022	Agrisci Tech II	1	
	Richardton-Taylor High School	01021	Agrisci Tech I	1	
		01022	Agrisci Tech II	1	
		07033	Health Careers	1	
		07036	Medical Terminology	1	
		14010	Accounting I	8	
	Scranton Public School	07034	Prevention/Care of Athletic Injury	1	
	South Heart Public School	07036	Medical Terminology	6	
	Tappen Public School	01021	Agrisci Tech I	1	
		01022	Agrisci Tech II	1	
	Turtle Lake-Mercer Public School	27400	GIS	2	
		27180	Web Design	3	
		Wilton Public School	01021	Agrisci Tech I	2
	01022		Agrisci Tech II	2	
	Scranton Public School	Flasher Public School	01034	Ag Sales & Serv	2
			13024	Botany/Hortic Science I	2
		Hazelton-Mof-Brad Public School	01034	Ag Sales & Serv	1
			13024	Botany/Hortic Science I	1
		Hettinger Public School	01034	Ag Sales & Serv	4
			13024	Botany/Hortic Science I	4
		Richardton-Taylor High School	01034	Ag Sales & Serv	2
			13024	Botany/Hortic Science I	2
		Strasburg High School	01034	Ag Sales & Serv	3
			13024	Botany/Hortic Science I	3
	Sheyenne Valley ACTC	Central Cass Public School	27266	CCNA Introduction to Networks	3
			07033	Health Careers	10
			27170	Introduction to Web Design	3
			27120	Intro to Program	9
		Enderlin Area Public School	07036	Medical Terminology	4
			17072	Commerical Art I	1
		Finley-Sharon Public School	07036	Medical Terminology	4
07033			Health Careers	7	
Hope High School		07036	Medical Terminology	1	
		27120	Intro to Program	2	
Larimore High School		27266	CCNA Introduction to Networks	1	
		07033	Health Careers	6	
Litchville-Marion High School		27266	CCNA Introduction to Networks	1	
		Midway Public School	27219	Comp Hrdwr & Op Sys	2
07033			Health Careers	4	
Minto Public School		27266	CCNA Introduction to Networks	2	
		07033	Health Careers	5	
		07036	Medical Terminology	5	
Thompson Public School		17072	Commerical Art I	3	
	07033	Health Careers	8		
Southeast Region CTC	Ellendale Public School	04111	Entrepreneur	1	
		04111	Entrepreneur	1	
		04240	Sports and Entertainment Marketing	1	

<u>Transmitting School</u> <u>(ITV)</u>	<u>Receiving School</u>	<u>Course</u> <u>Code</u>	<u>CTE Programs</u>	<u>Students</u> <u>Enrolled</u>			
Southeast Region CTC	Fairmount Public School	04240	Sports and Entertainment Marketing	1			
		07033	Health Careers	6			
		04240	Sports and Entertainment Marketing	3			
	Hankinson Public School		07033	Health Careers	4		
			01021	Agrisci Tech I	5		
			01067	Vet Science	1		
			04240	Sports and Entertainment Marketing	5		
			17140	TV Production	1		
	Lidgerwood Public School		07045	Emer Med Svcs	1		
			07045	Health Careers - EMT	1		
			07033	Health Careers	3		
			07046	Advanced EMS	1		
			07045	Health Careers - EMT	1		
	Milnor Public School		01021	Agrisci Tech I	2		
			10259	Design/Drafting	1		
			07033	Health Careers	10		
			04240	Sports and Entertainment Marketing	5		
			17140	TV Production	5		
			North Sargent Public School		10259	Design/Drafting	1
					04210	Marketing I	5
					07033	Health Careers	1
			Oakes		07046	Advanced EMS	1
					07045	Health Careers - EMT	1
	Richland Jr-Sr High School		04210	Marketing I	7		
			01067	Vet Science	2		
			07045	Emer Med Svcs	3		
			04111	Entrepreneur	7		
			07033	Health Careers	4		
			17140	TV Production	1		
			01021	Ag Science	2		
	Sargent Central Public School		04111	Entrepreneur	8		
			04210	Marketing I	2		
			07033	Health Careers	8		
			07045	Health Careers - EMT	4		
			17140	TV Production	13		
			01067	Vet Science	2		
			Wahpeton High School		07035	Adv Hlth Careers	1
01067					Vet Science	3	
07033	Health Careers	3					
Wyndmere Public School		07035			Adv Hlth Careers	1	
		01067			Vet Science	3	
		07033	Health Careers	3			
Total ITV:	13	66	37	689			

Accounting I	Commerical Art I	Parenting
Accounting II	Comp Hrdwr & Op Sys	PLTW Intro to Eng Design
Advanced EMS	Child Develop	Prevention/Care of Athletic Injury
Adv Health Careers	Design/Drafting	Sign Language I
Ag Sales & Serv	Emer Med Svcs	Sign Language II
Ag Business Mgmt	Entrepreneur	Sports and Entertainment Marketing
Agrisci Tech I	Exploration/Petroleum Industry	TV Production
Agrisci Tech II	Foundation of Ag	Vet Science
Agrisci Tech III	Health Careers	Welding Tech I
Applied Crop Science	Intro to Ag	
Aviation	Medical Terminology	
Botany/Hortic Science I	Marketing I	
Commerical Art I	Medical Terminology	
Networks	Nurse Assistant	

ND Department of Career and Technical Education

Cooperative Arrangements

School Districts On-Line Programs 2014-2015

9/15

<u>Transmitting School</u>		<u>Course</u>		<u>Students</u>
<u>(On-Line)</u>	<u>Receiving School</u>	<u>Code</u>	<u>CTE Programs</u>	<u>Enrolled</u>
James Valley ACTC	Ellendale Public School	07034	Prevention/Care of Athletic Injury	12
Lake Area CTC	Maddock Public School	14010	Accounting I	6
		14011	Accounting II	6
	Starkweather Public School	14098	Desktop Publish	1
		07036	Medical Terminology	1
		09131	Nutrition/Food Prep I	3
Missouri River ACTC	Ashley Public School	27219	Comp Hrdwr & Op Sys	2
		07033	Health Careers	6
		27101	Intro to Info Tech	2
		07036	Medical Terminology	4
	Beulah High School	07033	Health Careers	1
		27120	Intro to Programming Languages	1
		07036	Medical Terminology	1
		27122	Visual Basics	1
		10610	STEM	1
	Bismarck	07036	Medical Terminology	55
		27265	Introduction to Networks	5
	Center-Stanton Public School	07033	Health Careers	4
	Drake High School	04210	Marketing I	1
	Elgin-New Leipzig Public School	17150	Electronics Tech I	1
	Flasher Public School	17812	Aviation Technology I	8
		17813	Aviation Technology II	1
		07033	Health Careers	1
		04240	Sports and Entertainment Marketing	1
	Garrison High School	17812	Aviation Technology I	1
	Hazelton-Mof-Brad Public School	09026	Child Develop	2
		04210	Marketing I	2
	Hazen High School	17151	Electronics Tech II	2
		07033	Health Careers	1
		27120	Intro to Programming Languages	2
		07036	Medical Terminology	5
		27122	Program Ess-Vis Bas	2
	Killdeer Public School	17812	Aviation Technology I	4
	Lidgerwood Public School	27266	CCNA Introduction to Networks	1
	Linton Public School	27219	Comp Hrdwr & Op Sys	5
		17150	Electronics Tech I	2
		07033	Health Careers	6
		27101	Intro to Info Tech	5
		27265	Introductions to Networks	1
		07036	Medical Terminology	3
		27267	Routing & Switching	1
	Mandan High School	27219	Comp Hrdwr & Op Sys	1
		27101	Intro to Info Tech	1
		27120	Intro to Programming Languages	2
		07036	Medical Terminology	8
		27122	Program Ess-Vis Bas	2
	Medina Public School	17812	Aviation Technology I	1
	Napoleon Public School	04210	Marketing I	3
	New Salem-Almont High School	17812	Aviation Technology I	2
		09026	Child Develop	13
		27219	Comp Hrdwr & Op Sys	1
		07033	Health Careers	2
		27101	Intro to Info Tech	1
		04210	Marketing I	3
		07036	Medical Terminology	3
		09130	Parenting	19

<u>Transmitting School</u>		<u>Course</u>		<u>Students</u>			
<u>(On-Line)</u>	<u>Receiving School</u>	<u>Code</u>	<u>CTE Programs</u>	<u>Enrolled</u>			
Missouri River ACTC		04240	Sports and Entertainment Marketing	1			
		10610	STEM	1			
		17812	Aviation Technology I	1			
		17812	Aviation Technology I	5			
			NCACTC	17812	Aviation Technology I	1	
			RRACTC	17812	Aviation Technology I	5	
			Selfridge Public School	09026	Child Develop	6	
				27219	Comp Hrdwr & Op Sys	1	
				27101	Intro to Info Tech	1	
				09130	Parenting	2	
				Shiloh Christian School	27266	CCNA Introduction to Networks	2
					27267	CCNA Routing & Switching Essentials	2
					09026	Child Develop	6
					17150	Electronics Tech I	2
					17151	Electronics Tech II	1
					07033	Health Careers	3
			27120		Introduction to Programming Languges	2	
			27265		Intro to Networks	2	
			04210		Marketing I	3	
			07036		Medical Terminology	6	
			09130	Parenting	2		
			27122	Program Ess-Vis Bas	2		
			04240	Sports and Entertainment Marketing	5		
			South Central Alternative High Steele-Dawson Public School	27101	Intro to Info Tech	1	
				27219	Comp Hrdwr & Op Sys	3	
				17150	Electronics Tech I	1	
				17151	Electronics Tech II	1	
				27101	Intro to Info Tech	3	
				27120	Introduction to Programming Languges	1	
				07036	Medical Terminology	2	
				27122	Program Ess-Vis Bas	1	
				Strasburg High School	17812	Aviation Technology I	10
					04210	Marketing I	1
			Turtle Lake-Mercer Public School		27266	CCNA Introduction to Networks	1
					27267	CCNA Routing & Switching Essentials	1
					27120	Introduction to Programming Languges	2
					27265	Intro to Networks	1
					07033	Health Careers	3
					04210	Marketing I	1
					07036	Medical Terminology	1
					27122	Program Ess-Vis Bas	2
				07033	Health Careers	1	
				07033	Health Careers	2	
			Underwood Public School	17812	Aviation Technology I	1	
				27219	Comp Hrdwr & Op Sys	1	
				17150	Electronics Tech I	2	
				07033	Health Careers	4	
	27101	Intro to Info Tech		1			
	27120	Introduction to Programming Languges		1			
	04210	Marketing I		2			
	07036	Medical Terminology		1			
	09130	Parenting		2			
	27122	Program Ess-Vis Bas		1			
	Washburn Public School	04240	Sports and Entertainment Marketing	2			
		Wilton Public School	17812	Aviation Technology I	1		
			07036	Medical Terminology	1		
			Wishek Public School	27266	CCNA Introduction to Networks	2	
				27267	CCNA Routing & Switching Essentials	2	
				27219	Comp Hrdwr & Op Sys	5	
				07033	Health Careers	2	
				27101	Intro to Info Tech	5	
				27265	Intro to Networks	2	
				04210	Marketing I	6	
	09130			Parenting	1		
	Zeeland Public School	17813		Aviation Technology II	2		

<u>Transmitting School</u> <u>(On-Line)</u>	<u>Receiving School</u>	<u>Course</u> <u>Code</u>	<u>CTE Programs</u>	<u>Students</u> <u>Enrolled</u>	
Missouri River ACTC		04210	Marketing I	3	
		07036	Medical Terminology	6	
		04240	Sports and Entertainment Marketing	1	
North Central ACTC	Edgeley	07033	Health Careers	1	
North Valley ACTC	Cavalier Public School	01053	Bot/Hort Sci I	1	
		01022	Agrisci Tech II	4	
	Grafton High School	01025	Agrisci Tech IV	1	
		01023	Agrisci Tech III	6	
		01025	Agrisci Tech IV	6	
		Midway Public School	04240	Sports and Entertainment Marketing	1
			04111	Entrepreneurship	1
			01023	Agrisci Tech III	2
			01025	Agrisci Tech IV	2
			17032	Automotive Tech I	1
			01021	Agrisci Tech I	1
		North Border-Pembina Public	01022	Agrisci Tech II	1
			01023	Agrisci Tech III	1
			01025	Agrisci Tech IV	1
			01053	Bot/Hort Sci I	1
			04240	Sports and Entertainment Marketing	1
			04111	Entrepreneurship	1
01021			Agrisci Tech I	2	
01022			Agrisci Tech II	2	
01023			Agrisci Tech III	1	
01025			Agrisci Tech IV	1	
	North Border-Walhalla Public	01023	Agrisci Tech III	2	
		01025	Agrisci Tech IV	2	
		07036	Medical Terminology	4	
		07036	Medical Terminology	4	
		07032	Nurse Assistant	1	
		07032	Nurse Assistant	4	
		07036	Medical Terminology	6	
		07036	Medical Terminology	5	
		07032	Nurse Assistant	5	
		27120	Programing Essentials	8	
	Larimore High School	07036	Medical Terminology	9	
		07032	Nurse Assistant	9	
	May-Port CG High School	27120	Programing Essentials	2	
	Northwood Public School	07036	Medical Terminology	9	
		07032	Nurse Assistant	4	
	Red River High School	07036	Medical Terminology	9	
		07036	Medical Terminology	8	
		Thompson Public School	07032	Nurse Assistant	10
			27120	Programing Essentials	3
			07036	Medical Terminology	5
Southeast Region CTC	Wahpeton High School	07036	Medical Terminology	5	
Sheyenne Valley ACTC	Minto	07033	Health Careers	2	
	Park River	27266	Intro to Networking	2	
	Valley City	07033	Health Careers	5	
Total On-Line:	8	55		29	
				541	

Accounting I	Bot/Hort Sci I	Intro to Info Tech
Accounting II	CCNA Introduction to Networks	Introduction to Programming Languages
Agrisci Tech I	CCNA Routing & Switching	Marketing I
Agrisci Tech II	Child Develop	Medical Terminology
Agrisci Tech III	Comp Hrdwr & Op Sys	Nurse Assistant
Agrisci Tech IV	Desktop Publish	Nutrition/Food Prep I
Automotive Tech I	Electronics Tech I	Parenting
Aviation Technology I	Electronics Tech II	Prevention/Care of Athletic Injury
Aviation Technology II	Entrepreneurship	Program Ess-Vis Bas
	Health Careers	Sports and Entertainment Marketing

ND Department of Career and Technical Education Cooperative Arrangements

School Districts Sharing Instructors 2014-2015

9/15

<u>Teacher Contract</u>	<u>Receiving School</u>	<u>Course Code</u>	<u>CTE Programs</u>	<u>Students Enrolled</u>
Elgin-New Leipzig Public School	Flasher Public School	01011	Intro to Ag	4
Sheyenne Valley ACTC	LaMoure Public School	17100	Construction Tech I	2
		17117	Construction Tech II	2
	Litchville-Marion High School	17100	Construction Tech I	2
		17117	Construction Tech II	2
Southeast Region CTC	Edgeley Public School	17038	Auto Gen Service I	7
	Kulm High School	17038	Auto Gen Service I	4
Totals:	3	5	4	23

Explanation of CTE's "Coordinated Plans of Study."

(re: eligibility criteria for ND CTE Scholarship Program, updated 9/4/2015)

There are many coordinated plans of study for students to choose from to complete the "two credit plan of study" requirement specified in Section 15.1-21-02.4 of the North Century Code. The plans of study are organized by eight ND Career and Technical Education Program Areas: Agriculture Education; Business and Office Technology; Family and Consumer Sciences; Health Careers; Information Technology; Marketing Education; Technology and Engineering Education; and Trade, Industry, and Technical Education. The Coordinated Plans of Study are posted on the CTE website at www.nd.gov/cte/programs/career-dev/plans-of-study.html.

How to use the Coordinated Plans of Study: the figure below lists courses included in the "Individual and Family Studies" coordinated plan of study, it is the first coordinated plan of study listed in the area of Family and Consumer Sciences.

To complete two "units" of credit in this coordinated plan of study, a student chooses two or more courses to equal that number of credits.

To meet the two credit requirement a student might choose to take course codes:

- 09025 – Independent Living (for 1 credit),
- 09129 – Individual & Family Health (for 1/2 credit), &
- 09130 – Parenting (for 1/2 credit).

There are countless combinations of courses that students can take to complete the 2 required credits from one of ND-CTE's coordinated plans of study.

Family and Consumer Sciences Coordinated Plan of Study		
Human Services Career Cluster		
Family & Community Services Pathway		
Course Code	Description	No. of Cr
09022	Family & Consumer Sciences I	¼, ½, 1
09023	Family & Consumer Sciences II	½ or 1
09024	Family & Consumer Sciences III	½ or 1
09025	Independent Living	½ or 1
09026	Child Development	½ or 1
09028	Consumer & Resource Management	¼, ½, 1
09129	Individual & Family Health	¼, ½, 1
09130	Parenting	¼, ½, 1
09131	Nutrition & Food Prep I	½ or 1
09132	Family Living	¼, ½, 1
09137	Nutrition & Fitness	½ or 1
09140	Individual Family & Consumer Sciences Studies	¼, ½, 1

The additional two CTE credits required for the CTE Scholarship can come from any CTE course for grades 9-12 listed at www.nd.gov/cte/programs/, or at the DPI website (see below).

Please note: Barring individual school requirements, unless the description of the course (found at the DPI website listed below) indicates that the course requires a prerequisite, or the course is in a "numbered sequence, I, II, III" students can take the courses listed on the Coordinated Plans of Study in any order. They do not have to be taken in any particular sequence. (Again, this holds true unless an individual school has made other decisions regarding course sequencing for their school.)

For a complete listing of MISO3 course codes, go to the DPI website at:

www.nd.gov/dpi/Administrators/TSE/PK12CourseCodes/

DPI looks at the course codes reported on teachers' MISO3s to determine the courses included in a school's curriculum.

(Please remember - teachers must be licensed to teach the course work {by ESPB}; however CTE credentialing is not required for teachers, nor does a class have to be taught within a CTE funded program.)

For more information or clarification please contact:

Kelly Pierce, Career Development Supervisor, CTE
State Capitol Building, 15th Floor
600 E. Blvd. Ave. Dept 270
Bismarck, ND 58505-0610
701-328-3103
kpierce@nd.gov

Agriculture Education – Coordinated Plans of Study for ND Career and Technical Education or Academic Scholarships											
Agriculture, Food & Natural Resources Career Cluster											
Agribusiness Systems			Power, Structural & Technical Systems			Natural Resources					
Course Code	Description	No. of Credits	Course Code	Description	No. of Credits	Course Code	Description	No. of Credits	Course Code	Description	No. of Credits
01011	*Introduction to Agriculture	½ or 1	01011	*Introduction to Agriculture	½ or 1	01011	*Introduction to Agriculture	½ or 1			
01012	*Foundations of Agriculture	½ or 1	01012	*Foundations of Agriculture	½ or 1	01012	*Foundations of Agriculture	½ or 1			
01073	*Agriculture III	½ or 1	01073	*Agriculture III	½ or 1	01073	*Agriculture III	½ or 1			
01074	*Agriculture IV	½ or 1	01074	*Agriculture IV	½ or 1	01074	*Agriculture IV	½ or 1			
01080	CASE – Intro to AFNR	½ or 1	01080	CASE – Intro to AFNR	½ or 1	01080	CASE – Intro to AFNR	½ or 1			
01034	Agricultural Sales & Service	½ or 1	01043	Agricultural Mechanics Technology I	½ or 1	01053	Botany/Horticulture Science I	½ or 1			
01035	Agricultural Business Management	½ or 1	01044	Agricultural Mechanics Technology II	½ or 1	01054	Botany/Horticulture Science II	½ or 1			
01069	World Agricultural Science and Technology	½ or 1	01045	Agricultural Mechanics Technology III	½ or 1	01063	Natural/Environmental Resources	½ or 1			
01993	Community Development	½ or 1	01046	Agricultural Welding & Fabrication	½ or 1	01069	World Agriculture Science and Technology	½ or 1			
01995	Supervised Agricultural Experience	¼ to 2	01047	Advanced Ag Welding & Fabrication	½ or 1	01990	Individual Agricultural Studies	½ or 1			
01999	Cooperative Work Experience	½ or 1	01990	Individual Agricultural Studies	½ or 1	01993	Community Development	½ or 1			
01990	Individual Agricultural Studies	½ or 1	01995	Supervised Agricultural Experience	¼ to 2	01995	Supervised Agricultural Experience	¼ to 2			
			01999	Cooperative Work Experience	½ or 1	01999	Cooperative Work Experience	½ or 1			
Must complete at least 2 credits			Must complete at least 2 credits			Must complete at least 2 credits					

Agriculture Education – Coordinated Plans of Study for ND Career and Technical Education or Academic Scholarships											
Agriculture, Food & Natural Resources Career Cluster											
Environmental Services Systems			Food Products & Processing Systems			Plant Systems			Animal Systems		
Course Code	Description	No. of Credits	Course Code	Description	No. of Credits	Course Code	Description	No. of Credits	Course Code	Description	No. of Credits
01011	*Introduction to Agriculture	½ or 1	01011	*Introduction to Agriculture	½ or 1	01011	*Introduction to Agriculture	½ or 1	01011	*Introduction to Agriculture	½ or 1
01012	*Foundations of Agriculture	½ or 1	01012	*Foundations of Agriculture	½ or 1	01012	*Foundations of Agriculture	½ or 1	01012	*Foundations of Agriculture	½ or 1
01073	*Agriculture III	½ or 1	01068	Agriculture Processing	½ or 1	01073	*Agriculture III	½ or 1	01073	*Agriculture III	½ or 1
01074	*Agriculture IV	½ or 1	01073	*Agriculture III	½ or 1	01074	*Agriculture IV	½ or 1	01074	*Agriculture IV	½ or 1
01080	CASE – Intro to AFNR	½ or 1	01074	*Agriculture IV	½ or 1	01080	CASE – Intro to AFNR	½ or 1	01061	Livestock Production	½ or 1
01053 – 54	Botany/Horticulture Science	½ or 1	01080	CASE – Intro to AFNR	½ or 1	01053	Botany/Horticulture Science I	½ or 1	01062	Equine Science	½ or 1
01043 - 47	Agricultural Mechanics Technology	½ or 1	01990	Individual Agricultural Studies	½ or 1	01054	Botany/Horticulture Science II	½ or 1	01066	Small Animal Care	½ or 1
01063	Natural/Environmental Resources	½ or 1	01995	Supervised Agricultural Experience	¼ to 2	01069	World Agriculture Science and Technology	½ or 1	01067	Veterinary Science	½ or 1
01069	World Agricultural Science and Technology	½ or 1	01999	Cooperative Work Experience	½ or 1	01990	Individual Agricultural Studies	½ or 1	01080	CASE – Intro to AFNR	½ or 1
01990	Individual Agricultural Studies	½ or 1				01995	Supervised Agricultural Experience	¼ to 2	01068	Agriculture Processing	½ or 1
01993	Community Development	½ or 1				01999	Cooperative Work Experience	½ or 1	01069	World Agriculture Science and Technology	½ or 1
01995	Supervised Agricultural Experience	¼ to 2							01990	Individual Agricultural Studies	½ or 1
01999	Cooperative Work Experience	½ or 1							01995	Supervised Agricultural Experience	¼ to 2
									01999	Cooperative Work Experience	½ or 1
Must complete at least 2 credits			Must complete at least 2 credits			Must complete at least 2 credits			Must complete at least 2 credits		

Interchangeable:

- 01021 Agriscience Technology I or 01011 Introduction to Agriculture;
- 01022 Agriscience Technology II or 01012 Foundations of Agriculture;
- 01023 Agriscience Technology III or 01073 Agriculture III;
- 01025 Agriscience Technology IV or 01074 Agriculture IV.

Business Education– Coordinated Plans of Study for ND Career and Technical Education or Academic Scholarships								
Business Management & Administration Career Cluster						Finance Career Cluster		
Administrative Support			General Management			Accounting		
Course Code	Description	No. of Credits	Course Code	Description	No. of Credits	Course Code	Description	No. of Credits
14096	Word Processing	¼, ½ or 1	14230/04080	Business Fundamentals/ Principles of Marketing	½ or 1	14010	Accounting I	½
14025	Spreadsheets	¼ or ½	14231	Management I	½	14011	Accounting II	½
14098	Desktop Publishing	¼, ½ or 1	14232	Management II	½	14025	Spreadsheets	¼ or ½
14099	Multimedia	½ or 1	14010	Accounting I	½	14012	Accounting III	½
14060	Business Communication	½ or 1	14011	Accounting II	½	14013	Accounting IV	½
14028	Communication Technologies	½ or 1	14016	Business Finance	½	14060	Business Communication	½ or 1
14022	Web Design	½ or 1	14111	Entrepreneurship	½ or 1	14016	Business Finance	½
14026	Database	¼ or ½	14233	Global Management	½	14014	Forensic Accounting	½
14010	Accounting I	½	14234	Operations Management	½	14015	Entrepreneurial Accounting	½
14011	Accounting II	½	14090	Business Law	½ or 1	14230/04080	Business Fundamentals/ Principles of Marketing	½ or 1
14079	Business Technology & Procedures	½ or 1	14060	Business Communication	½ or 1	14090	Business Law	½ or 1
14230/04080	Business Fundamentals/ Principles of Marketing	½ or 1	14024	Business Computer Applications	½ or 1	14024	Business Computer Applications	½ or 1
14095	Financial Literacy	½ or 1	14095	Financial Literacy	½ or 1	14095	Financial Literacy	½ or 1
14999	Cooperative Work Experience	½ to 2	14999	Cooperative Work Experience	½ to 2	14999	Cooperative Work Experience	½ to 2
Must complete at least 2 credits			Must complete at least 2 credits			Must complete at least 2 credits		

High School of Business		
Business Management & Administration Career Cluster		
General Management		
Course Code	Description	No. of Credits
04311	HSB: Leadership for Business	½
04312	HSB: Wealth Management	½
04323	HSB: Principles of Business	½
04314	HSB: Business Economics	½
04315	HSB: Principles of Marketing	½
04316	HSB – Principles of Finance	½
04317	HSB – Principles of Management	½
04318	HSB – Business Strategies	½
Credential required to teach these HSB courses: CTE BE or Marketing AND High Schools of Business Training		
Must complete at least 2 credits		

Family and Consumer Sciences – Coordinated Plans of Study for ND Career and Technical Education or Academic Scholarships

Human Services Career Cluster						Hospitality & Tourism Career Cluster			Arts, A/V Technology & Communications Cluster		
Family & Community Services			Early Childhood Development & Services			Restaurants & Food/Beverage Services			Visual Arts		
Course Code	Description	No. of Cr	Course Code	Description	No. of Cr	Course Code	Description	No. of Cr	Course Code	Description	No. of Cr
09022	Family & Consumer Sciences I	¼, ½, 1	09022	Family & Consumer Sciences I	¼, ½, 1	09022	Family & Consumer Sciences I	¼, ½, 1	09022	Family & Consumer Sciences I	¼, ½, 1
09023	Family & Consumer Sciences II	½ or 1	09023	Family & Consumer Sciences II	½ or 1	09023	Family & Consumer Sciences II	½ or 1	09023	Family & Consumer Sciences II	½ or 1
09024	Family & Consumer Sciences III	½ or 1	09024	Family & Consumer Sciences III	½ or 1	09024	Family & Consumer Sciences III	½ or 1	09024	Family & Consumer Sciences III	½ or 1
09025	Independent Living	½ or 1	09025	Independent Living	¼, ½, 1	09025	Independent Living	¼, ½, 1	09025	Independent Living	¼, ½, 1
09026	Child Development	½ or 1	09026	Child Development	¼, ½, 1	09028	Consumer & Resource Management	¼, ½, 1	09027	Clothing & Textiles I	½ or 1
09028	Consumer & Resource Management	¼, ½, 1	09028	Consumer & Resource Management	¼, ½, 1	09129	Individual & Family Health	¼, ½, 1	09028	Consumer & Resource Management	¼, ½, 1
09129	Individual & Family Health	¼, ½, 1	09129	Individual & Family Health	¼, ½, 1	09131	Nutrition and Foods Prep I	½ or 1	09029	Clothing & Textiles II	½ or 1
09130	Parenting	¼, ½, 1	09130	Parenting	¼, ½, 1	09135	Nutrition and Foods Prep II	½ or 1	09030	Fashion & Textile Trends	½ or 1
09131	Nutrition & Food Prep I	½ or 1	09132	Family Living	¼, ½, 1	09136	Cultures & Cuisine	½ or 1	09037	Current Topics in Textiles & Apparel	½ or 1
09132	Family Living	¼, ½, 1	09140	Individual Family & Consumer Sciences Studies	¼, ½, 1	09137	Nutrition & Fitness	½ or 1	09133	Housing & Living Environments	¼, ½, 1
09137	Nutrition & Fitness	½ or 1	09211	Early Childhood Care & Education Services	1, 2	09138	Food Science & Technology	½ or 1	09140	Individual Family & Consumer Sciences Studies	¼, ½, 1
09140	Individual Family & Consumer Sciences Studies	¼, ½, 1	09250	Occupational Exploration	½ or 1	09140	Individual Family & Consumer Sciences Studies	¼, ½, 1	09212	Clothing & Textile Services	1, 2
			09299	Cooperative Work Experience	½ to 2	09213	Food Service/Culinary Arts	1,2	09250	Occupational Exploration	½, 1
						09250	Occupational Exploration	½ or 1	09299	Cooperative Work Experience	½ to 2
						09299	Cooperative work Experience	½ to 2			
Must complete at least 2 credits			Must complete at least 2 credits			Must complete at least 2 credits			Must complete at least 2 credits		

Health Careers – Coordinated Plans of Study for ND Career and Technical Education & Academic Scholarships					
Health Science Career Cluster			Business Management & Administration Career Cluster		
Therapeutic Services			Human Resources Management		
Course Code	Description	No. of Credits	Course Code	Description	No. of Credits
07032	Nurse Assistant	½ or 1	07021	Sign Language I	½
07033	Health Careers I	1 or 2	07022	Sign Language II	½
07034	Prevention/Care of Athletic Injuries	½ or 1	07023	Sign Language III	½
07035	Advanced Health Careers	1 or 2	07024	Sign Language IV	½
07036	Medical Terminology	½ or 1	07025	Sign Language Cooperative Education	1
07045	Emergency Medical Services	1 or 2	07999	Health Education Supervised Occupational Experience	½ to 2
07046	Advanced EMS	1 or 2			
07999	Health Education Supervised Occupational Experience	½ to 2			
37080	CTE Health Careers Cluster*	½ or 1			
Must complete at least 2 credits			Must complete at least 2 credits		

Information Technology – Coordinated Plans of Study for ND Career and Technical Education or Academic Scholarships

Information Technology Career Cluster

Network Systems			Information Support & Services			Web and Digital Communications			Programming & Software Development		
Course Code	Description	No. of Credits	Course Code	Description	No. of Credits	Course Code	Description	No. of Credits	Course Code	Description	No. of Credits
27101	Intro to IT	¼, ½, 1	27101	Intro to IT	¼, ½, 1	27101	Intro to IT	¼, ½, 1	27101	Intro to IT	¼, ½, 1
27220	IT Essentials 2	½ or 1	27219	Computer Hardware and Operating Systems (A+)	½, 1, 2	27102	Computer Software Application	½, 1, 2	27120	Intro to Programming Languages	½ or 1
27219	Computer Hardware and Operating Systems (A+)	½, 1, 2	27280	Introduction to Cybersecurity	½ or 1	27170	Introduction to Web Design	½ or 1	27122	Programming Essentials	½ or 1
27265	Introduction to Networking	½ or 1	27300	Essentials of Desktop Operating Systems	½ or 1	27180	CIW Foundations	½ or 1	27125	Fundamentals of JAVA Programming	½ or 1
27266	CCNA Introduction to Networks	½ or 1	27310	Essentials of Network Operating Systems	½ or 1	27185	CIW Site Design	½ or 1	27127	Advanced JAVA Programming	½ or 1
27267	CCNA Routing & Switching Essentials	½ or 1	27400	Geographic Info Systems (GIS)	½ or 1	27280	Introduction to Cybersecurity	½ or 1	27170	Introduction to Web Design	½ or 1
27268	CCNA Scaling Networks	½ or 1	27999	Cooperative Work Experience	½ to 2	27400	Geographic Info Systems (GIS)	½ or 1	27180	CIW Foundations	½ or 1
27269	CCNA Connecting Networks	½ or 1				27999	Cooperative Work Experience	½ to 2	27185	CIW Site Design	½ or 1
27280	Introduction to Cybersecurity	½ or 1							27280	Introduction to Cybersecurity	½ or 1
27999	Cooperative Work Experience	½ to 2							27500	Data Modeling & SQL	½ or 1
									27999	Cooperative Work Experience	½ to 2
Must complete at least 2 credits			Must complete at least 2 credits			Must complete at least 2 credits			Must complete at least 2 credits		

Marketing Education – Coordinated Plans of Study for ND Career and Technical Education or Academic Scholarships					
Marketing Career Cluster					
Professional Sales/Merchandising/Marketing Communication			Marketing Management		
Course Code	Description	No. of Credits	Course Code	Description	No. of Credits
04080/ 14230	Principles of Marketing/ Business Fundamentals	½ or 1	04080/ 14230	Principles of Marketing/ Business Fundamentals	½ or 1
04210	Marketing I	1	04081	Principles of Finance	½
04215	Marketing II	1	04082	Business Finance	½ or 1
04223	Management	1	04110	Principles of Entrepreneurship	½ or 1
04235	Social Media Marketing	½ or 1	04111	Entrepreneurship	½ or 1
04239	Principles of Sports & Entertainment Marketing	½	04210	Marketing I	1
04240	Sports & Entertainment Marketing	½ or 1	04215	Marketing II	1
04310	International Marketing	½	04223	Management	1
04290	School Based Enterprise	½ or 1	04235	Social Media Marketing	½ or 1
04999	Cooperative Work Experience	½ or 1	04290	School Based Enterprise	½ or 1
			04999	Cooperative Work Experience	½ or 1
Must complete at least 2 credits			Must complete at least 2 credits		

High School of Business		
Business Management & Administration Career Cluster		
General Management		
Course Code	Description	No. of Credits
04311	HSB – Leadership for Business	½
04312	HSB – Wealth Management	½
04313	HSB – Principles of Business	½
04314	HSB – Business Economics	½
04315	HSB – Principles of Marketing	½
04316	HSB – Principles of Finance	½
04317	HSB – Principles of Management	½
04318	HSB – Business Strategies	½
Credential required to teach these HSB courses: CTE Marketing or Business Education AND High Schools of Business training		
Must complete at least 2 credits		

Technology & Engineering Education – Coordinated Plans of Study for ND Career and Technical Education or Academic Scholarships

Science, Technology, Engineering & Mathematics Career Cluster	Manufacturing Career Cluster
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Engineering & Technology	Manufacturing Production Process Development
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Course Code	Description	No. of Cr	Course Code	Description	No. of Cr
10094	Foundations of Technology	½ or 1	10091	Individual Technical Problems	½ or 1
10096	Technology & Society	½ or 1	10093	Applying Technology	½ or 1
10338	Advanced Design Applications	½ or 1	10110	Production Technology	½ or 1
10339	Advanced Tech Applications	½ or 1	10111	Construction Technology	½ or 1
10410	Technological Design	½ or 1	10121	Manufacturing Technology	½ or 1
10415	Engineering Design	½ or 1	10251	Communication Technology	½ or 1
10510	Invention & Innovation	½ or 1	10259	Design/Drafting	½ or 1
10511	*PLTW Introduction to Engineering Design	½ or 1	10260	3D Modeling & Design	½ or 1
10512	*PLTW Digital Electronics	½ or 1	10331	Energy & Transportation Technology	½ or 1
10513	*PLTW Principles of Engineering	½ or 1	10411	Robotics Engineering	½ or 1
10514	*PLTW Civil Engineering and Architecture	½ or 1	10999	Cooperative Work Experience	½ or 1
10515	Technological Systems	½ or 1			
10517	*PLTW Computer Integrated Manufacturing	½ or 1			
10610	STEM Seminar	½ or 1			
10710	Biomedical Technology	½ or 1			
10730	*PLTW Principles of Biomedical Science	½ or 1			
10999	Cooperative Work Experience	½ or 1			

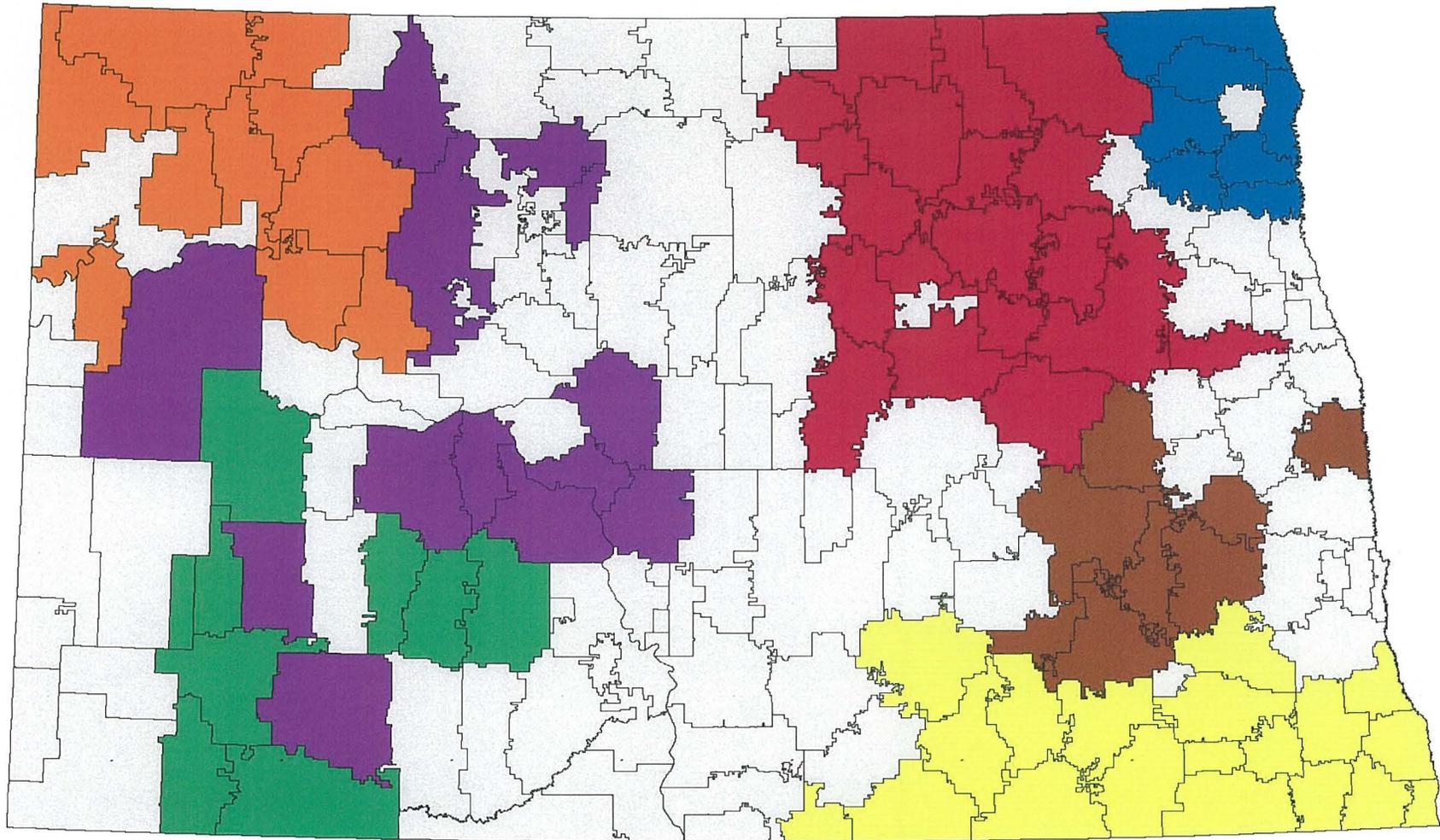
*PLTW Endorsement required to teach this course	
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Must complete at least 2 credits	Must complete at least 2 credits
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Trade, Industry & Technical Education – Coordinated Plans of Study for ND Career and Technical Education or Academic Scholarships														
Transportation, Distribution & Logistics Career Cluster						Architecture & Construction Career Cluster								
Transportation Operations			Facility and Mobile Equipment Maintenance			Construction			Maintenance/Operations			Design/Pre-Construction		
Course Code	Description	No. of Credits	Course Code	Description	No. of Credits	Course Code	Description	No. of Credits	Course Code	Description	No. of Credits	Course Code	Description	No. of Credits
17812	Aviation Technology I	1 or 2	17030	Auto Collision Tech I	1 or 2	17100	Construction Technology I	1 or 2	17110	Facilities Maintenance I	1 or 2	17130	Drafting Technology I	1 or 2
17813	Aviation Technology II	1 or 2	17031	Auto Collision Tech II	2	17101	Virtual Center Construction Technology Summer Academy	½	17118	Facilities Maintenance II	2	17131	Drafting Technology II	2
17045	Commercial Driver License	1	17032	Auto Tech I	1 or 2	17117	Construction Technology II	2	17120	Residential Plumbing	2	10511	*PLTW Introduction to Engineering Design (IED)	1
17999	Cooperative Work Experience	½ to 2	17037	Auto Tech II	2	17120	Residential Plumbing	2	17115	Sheet Metal Technology	2	17999	Cooperative Work Experience	½ to 2
			17038	Auto General Service Tech I	1 or 2	17112	HVAC	2	17112	HVAC	2	37020	Architecture & Construction Cluster	½ or 1
			17039	Auto General Service Tech II	2	17125	Electrical Technology	2	17999	Cooperative Work Experience	½ to 2			
			17035	Parts & Merchandise Management	2	17999	Cooperative Work Experience	½ to 2	37020	Architecture & Construction Cluster	½ or 1			
			17040	Diesel Tech	2	37020	Architecture & Construction Cluster	½ or 1						
			17310	Recreational Small Engine Technology I	1 or 2									
			17311	Recreational Small Engine Technology	2									
			17999	Cooperative Work Experience	½ to 2									
			37170	Transportation, Distribution & Logistics Cluster	½ or 1									*PLTW Endorsement required to teach this course
Must complete at least 2 credits			Must complete at least 2 credits			Must complete at least 2 credits			Must complete at least 2 credits			Must complete at least 2 credits		

Trade, Industry & Technical Education – Coordinated Plans of Study for ND Career and Technical Education or Academic Scholarships														
Manufacturing Career Cluster						Hospitality & Tourism Career Cluster			Arts, AV Technology & Communications Career Cluster			Agriculture, Food & Natural Resources Career Cluster		
Production			Manufacturing Production Process Development			Restaurants & Food/Beverage Services			Visual Arts			Natural Resources Systems		
Course Code	Description	No. of Credits	Course Code	Description	No. of Cr	Course Code	Description	No. of Credits	Course Code	Description	No. of Cr	Course Code	Description	No. of Credits
17236	Welding Technology I	1 or 2	17150	Electronics Technology I	1 or 2	17050	Culinary Arts I	1 or 2	17072	Commercial Art I	1 or 2	17410	Exploration of Oil Industry	½ or 1
17237	Welding Technology II	2	17151	Electronics Technology II	1 or 2	17051	Culinary Arts II	2	17073	Commercial Art II	2	17413	Petroleum Industry Skills	½ or 1
17238	Virtual Center Welding Technology Summer Academy	½	17152	Electronics Technology III	1 or 2	17999	Cooperative Work Experience	½, 1, or 2	17080	Photography	1 or 2			
17230	Machine Tooling Technology	1 or 2	17999	Cooperative Work Experience	½ to 2				17190	Graphic Communications I	1 or 2			
17113	Automated Manufacturing	1 or 2	37140	Manufacturing Cluster	½ or 1				17191	Graphic Communications II	2			
17999	Cooperative Work Experience	½ to 2							17140	Television Production	1 or 2			
37140	Manufacturing Cluster	½ or 1							17999	Cooperative Work Experience	½ to 2			
									37030	Arts, A/V Technology & Communications Cluster	½ or 1			
Must complete at least 2 credits			Must complete at least 2 credits			Must complete at least 2 credits			Must complete at least 2 credits			Must complete at least 2 credits		

Emerging Technology Consortium Memberships



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|--|---|
|  Non-Consortium Member |  Roughrider Area Career and Technology Center |
|  Great Northwest Regional Education Center |  Sheyenne Valley Area Career & Technology |
|  Lake Area Career & Technology Center |  Southeast Regional Career & Technology Center |
|  North Valley Area Career & Technology Center |  Western Dakota Corp of Discovery |

**Department of Career & Technical Education
Emerging Technology Consortium Memberships
Fiscal Year 2015 (97 Schools)**

Highrider Area Career and Technology Center - Dickinson – 9 Schools

Belfield	Glen Ullin	Hebron	Hettinger	Killdeer
New England	New Salem	Scranton	South Heart	

Technology Learning Cooperative - Lake Area Career & Technology Center – Devils Lake - 21 schools

Devils Lake	Lake Area CTC	Leeds	Munich	Rolette
Dakota Prairie	Maddock	New Rockford	Rolla	Starkweather
Edmore	Lakota	Midkota	North Star	Warwick
Fessenden-Bowden	Langdon	Minnewaukan	Northwood	Wolford
Four Winds				

Western Dakota Corp of Discovery – Kenmare - 14 schools

Beulah	Glenburn	Lewis & Clark (Berthold)	Mott	Washburn
Center	Hazen	Makoti	Surrey	Wilton
Dickinson Catholic	Kenmare	McKenzie County	Turtle Lake/Mercer	

Walsh/Pembina Technology Cooperative - North Valley Area Career & Technology Center, Grafton 10 schools

Walsh	Grafton CTE Center	Grafton MS	Pembina	Valley/Edinburg
Drayton	Grafton HS	Minto	Park River	Walhalla

Southeast High Tech - Southeast Regional Career & Technology Center, Oakes - 21 schools

Ashley	Forman	Kulm	Milnor	SERCTC-2
Edgeley	Gackle-Streeter	LaMoure	Oakes	Wahpeton
Ellendale	Gwinner	Lidgerwood	Richland 44, Colfax	Wyndmere
Enderlin	Hankinson	Lisbon	SERCTC-1	Zeeland
Fairmount				

Greater Barnes County - Sheyenne Valley Area Career & Technology Center, Valley City – 10 schools

Barnes County North	Hillsboro	Litchville/Marion	Montpelier	Valley City HS
Cooperstown	Hope/Page	Maple Valley/Oriska	Valley City CTC	Valley City MS

Great Northwest Regional Education Center, Williston – 12 schools

Alexander	Grenora	Powers Lake	Stanley	Trenton
Burke Central	New Town	Ray	Tioga	Williston
Osby	Parshall			

Emerging Technology Modules by Consortium

2015 – 2016

Corp of Discovery - Kenmare	Walsh/Pembina Tech. Coop.-Grafton	Southeast High Tech-Oakes	Roughrider Area CTC	TLC-Devils Lake	Valley City	GNWREC - Williston
Bio-Chemistry	3D printer	3D Printer/ Plastic Molding	BioChem	3D Printer	3D Printer	Bio-Chemistry
CNC Embroidery	Alternate Energy	Alternative Energy	CNC Embroidery	Alternative Energy	Alternative Energy	CNC Embroidery
CNC Plasma Cutting	Bio Tech	Aviation	CNC Router	BioTech	Bio-Chem	CNC Router
CNC Mill	CNC Embroidery	Bio/Genetics	GIS	CNC Embroidery	CNC Embroidery	Electronics
CNC Routers	CNC Lathe	CNC Embroidery	Laser Engraver	Dye Sublimation	CNC Mill	GPS
Electronics	CNC Mill	CNC Mill	Mechanical/Hydraulic/Pneumatic	GPS	CNC Router	Graphics Production
GPS	Electronics/Pneumatics/Machines	CNC Router		Hydraulics	Electronic/Hydraulic/Mechanical	
Laser Optics	Laser Engraver	Electronics		Laser Engraver	Flight Simulator	LASER
Laser Engravers	Laser Technology	GPS		Residential/ Electronics	GPS	Mechanical/Hydraulic/Pneumatic
Mechanical/Pneumatics/Hydraulics	Plasma Cutter	Mechanical/Hydraulic/Pneumatic		STEM Kits	Laser Engraver	Robotics
Robotics	Plastic Molding	Laser Engraver		Vinyl Cutting/Printing	Laser Technology/ Fiber Optics	Vinyl Cutting/Printing
Vinyl Cutter/Printing	Robots	Laser Technology		Virtual Welder	Plasma Cutter	
	Router	Robotics			Robotics	
	Vinyl Cutting/Printing	STEM Cart			STEM Cart	
		Vernier Science Workshop			Vinyl Cutting/Printing	
		Video Editing			Virtual Welder	
		Vinyl Cutter				
		Welding Simulator				