



ENSC 100 and AGEN 110
Articulation Agreement Between
Morrisville State College
And
DCMO BOCES
Chenango Campus
&
Harrold Campus



General Student Agreement

The following agreement has been developed to meet the needs of students who are pursuing educational programs in the secondary schools listed below and are continuing their education at Morrisville State College.

The purpose of this Articulation Agreement is to provide a continuing articulation program that builds on past learning experiences and eliminates the unnecessary duplication of instruction. Specific articulation provisions are listed with each course.

Specific Articulation Provisions

In order to receive Morrisville State College ENSC 100 and AGEN 110 credit, the responsible instructor (or designee) from each local BOCES agrees to:

1. Provide a letter of recommendation verifying the student's proficiency
2. Submit the student's transcripts
3. Provide Morrisville State College with a copy of their curriculum outline in Conservation

Morrisville State College will grant credit whenever the student officially matriculates into the Natural Resource Conservation A.A.S. degree program.

- Students must receive a grade of 80% or better in the BOCES' Conservation Program.
- Students will be granted 3 credits for ENSC 100 and 2 credits for AGEN 110.
- The student understands that he/she must complete the first semester of coursework with a grade of 2.00 or better, while carrying a minimum of twelve (12) credit hours at Morrisville State College, before articulation credit is posted on the transcript.
- Upon acceptance at Morrisville State College, the student should contact his or her high school guidance department to facilitate the granting of credit.
- This agreement will be reviewed and renewed every five (5) years.
- This agreement will be in effect upon signing by both parties and may be revised upon mutual agreement of both parties.

DCMO BOCES Conservation Course Outline

DCMO BOCES

Chenango Campus

6678 County Rd. 32, Norwich, NY 13815

&

Harrold Campus

270 BOCES Dr., Sidney Center, NY 13839

CONSERVATION AND EQUIPMENT TECHNOLOGIES (8 credits)

Instructor Tim Crumb – crumbt@dcmoboces.com – Chenango Campus – 607-335-1272

Instructor Kyle Boeltz – boeltzk@dcmoboces.com – Chenango Campus – 607-335-1209

Instructor Zachary Whittaker – whittakz@dcmoboces.com – Harrold Campus – 607-865-2541

Instructor George Lang – langg@dcmoboces.com – Harrold Campus – 607-865-2529

Student Services Office:

607-335-1290 Chenango Campus

607-865-2568 Harrold Campus

Class Meetings: Monday-Friday – AM 9:00-11:30 and PM 12:00-2:30

Please see attached school calendar for important dates.

Available Credit: One Credit-Math, Science, English

These credits will be distributed ONLY at the discretion of the school district on an individual basis.

Theory Hours 2 Years: 349

Lab Hours 2 Years: 551

Resources Used:

- (1) 150 Acres of Outdoor Learning Lab
- (2) Briggs and Stratton Small Engine Repair Module
- (3) 23 Pieces of Earth Moving Equipment
- (4) Welding Lab for MIG, Oxy Fuel, and Arc Welding
- (5) 25 Acres of Sugarbush w/Saphouse for Maple Syrup
- (6) Greenhouse with a Fish Farm and a Terrarium
- (7) Conservation Class Library

Supplies & Equipment:

Hard Hat, Safety Glasses, Work Boots, Seasonal Change of Clothes for Cold and Rainy Weather, Notebook, Writing Utensils, Work Gloves

Attendance:

Attendance in ALL of our Career and Technical Education (CTE) Programs is extremely important. When you are absent, it detracts from your learning as well as the climate and culture of the team building process within your CTE program.

Assignment of Grades:

The CTE Center uses a competency based exit outcome system to assess your progress in our programs. All students enrolled in a CTE program will receive a grade every five weeks. This grade will be based on the following criteria: Content & Performance (2/3) and Employability Skills (1/3)

Program Description:

The Conservation and Equipment Technologies Program is comprised of four major concentrations. They are Forestry, Environmental Science, Greenhouse/Landscape Management and Heavy Equipment Operation/Repair. We are a project-based program, with hands-on training. Much of our class time is spent outside.

Program Goals:

Upon completion of the program, each student will:

- (1) Seek gainful employment or continue on into undergraduate studies in a related field.
- (2) Utilize what was learned in DCMO BOCEDS Conservation and Equipment Technologies class as a resource for the future.

Articulation Agreements: In progress

Curriculum Overview/Units of Instruction:

- (1) Forestry – The forestry units prepare students for the basic skills required to succeed in forest

management from stump to sawmill. This includes: chainsaw use, basic forest measurement, firewood sales, maple syrup production, and sawmill operation.

(2) Heavy Equipment Operation and Repair – Units in this concentration are designed to provide basic skills and knowledge of machinery operation, maintenance and repair.

(3) Environmental Science – These units cover wildlife and management, soil science, plant growth, ecology, water quality, and more.

(4) Greenhouse and Landscape Management – Units cover greenhouse use and management, plant care, masonry, and agricultural mechanics skills like plumbing and building basic structures.

Required Assignments:

Projects in Each Concentration

Tests & Quizzes

Research Paper

Article Summaries

Data Collection/Evaluation

In-Class Discussions and Debates

Safety Talks

Project-Based Learning Exercises

Final Exam and Project

Final Assessments:

All of our Career and Technical Programs are aligned to State and/or National Standards. Your final program assessment will be from the National Occupational Competency Testing Institute and will be comprised of three components; a hands-on practical section, a written section, and a project. Upon the successful completion of this assessment, students will be awarded a Technical Endorsement, which will be affixed to their high school diplomas.

CONSERVATION AND EQUIPMENT TECHNOLOGIES

Calendar

Dates Unit of Instruction

9/7 Orientation

9/12 Orientation/Issue Equipment – lockers, etc. divide into groups

9/19 Safety and Operation of Lawn Care Equipment (seasonal); Lawn Care, Landscaping (seasonal), Greenhouse Operation and Management (ongoing throughout the year)

9/27 Safety and Operation of Farm Tractors, Skid Steers, Backhoe & Mini-Excavator – Group 1 Second Year Students add Loader, Dump Trucks (ongoing throughout the year)

10/4 Safety and Operation of Farm Tractors, Skid Steers, Backhoe & Mini-Excavator – Group 2 Second Year Students add Loader, Dump Trucks (ongoing throughout the year)

10/12 Safety Operation of Farm Tractors, Skid Steers, Backhoe and Mini-Excavator – Group 3 Second Year Students add Loader, Dump Trucks (ongoing throughout the year)

10/18 Advanced Heavy Equipment Operation and add Bulldozer Safety and Operation; Second Year Students add Large Excavator (ongoing throughout the year)

10/25 Advanced Heavy Equipment Operation and add Bulldozer Safety and Operation; Second Year Students add Large Excavator (ongoing throughout the year)

11/1 Working Stone and Gravel Pit, Topsoil; Building of Roads and Foundations (ongoing throughout the year)

11/8 Chainsaw Safety and Operation and Woodlot Management (ongoing throughout the year weather permitting)

11/15 Working Stone and Gravel Pit, Topsoil; Start Senior Projects (ongoing throughout the year)

11/22 Budget & Wages; Taxes; Small Business – Group 1

11/29 Working Stone and Gravel Pit, Topsoil; Building of Roads & Foundations (ongoing throughout the year weather permitting)

12/6 Fifth Acre Plots, Survey; Safety

12/13 Dimension Lumber; Log Scaling; Safety

12/20 Sawmill Operation Safety and Operation; Clean Up for Holiday Break

1/3 Basic Welding & Cutting; Forestry and Sawmill Safety & Operation – Group 1

1/10 Basic Welding & Cutting; Forestry and Sawmill Safety & Operation – Group 2

1/18 Basic Welding & Cutting; Forestry and Sawmill Safety & Operation – Group 3

1/25 Biodiesel/Green Technologies (revisited throughout the year)

2/1 Hydroponics, Aquaculture and Water Quality (revisited throughout the year)

2/2 Maple Syrup Production (weather permitting until season ends); Woodlot Management and Advanced Welding and Shop related Mechanics Projects such as Advanced Small Engines Repair for Second Year Students

4/4 Woodlot Management, Sawmill Operations – Basic Small Engine Repair and Principles – First Year Students

4/18 Pond Construction Principles and Ecosystems

4/30 Senior Projects Due

5/3 Advanced Equipment Operation; Project Learning on and off Campus

5/3 Safety and Operation of Lawn Care Equipment (seasonal); Lawn Care, Landscaping (seasonal weather permitting); Greenhouse Operation and Management (ongoing throughout the year)

Conservation & Natural Resource Management

PROGRAM LENGTH: 1 and 2 years

COURSE DESCRIPTION:

Join our largest programs. These programs; heavy equipment operations and maintenance, aquaculture, landscape management, and forestry use real life projects to give students skills. These include surveying, forestland use regulations, and management (fisheries, watershed), and sanitary systems. Basic repair and maintenance of heavy equipment and operation of bulldozers, backhoes, loaders, and excavators are some of the skills available in this program. Students also run a successful maple syrup production business. College credit available.

EXIT OUTCOMES:

I. Technical Skills: Students will demonstrate knowledge of the theory and structure of the industry and apply that knowledge in practical experiences.

II. Safety: Students will demonstrate and apply knowledge of personal job safety standards and procedures to all aspects of their training during their participation in the program.

III. Integrated Academics: Students will demonstrate and apply math, reading, writing, speaking, and listening skills to classroom activities, projects, and work experiences during participation in the program.

IV. Employability Skills: Students will develop and demonstrate the employability (SCAN) skills in class activities, projects, and work experiences during participation in the program.

PERFORMANCE INDICATORS:

I. Technical Skills

Forestry Basic (must complete all) - identifies common NYS trees; determine board feet in standing timber; determine board feet in saw logs and lumber; uses a chain saw; uses and maintains a dozer in harvesting a forest crop; effectively harvest timber using NYS guidelines; demonstrates basic management principals of wood lots; determine and maintain boundary lines; demonstrates knowledge and understanding of small engine principles in forestry equipment; uses troubleshooting techniques in repairing forestry equipment; completes Major Forestry Project. Optional (must complete two) use a portable saw mill; uses and maintains a log skidder; assist in a Christmas tree operation; assist in a maple syrup operation.

Environmental Science Basic (must complete all) - identifies common species found in NYS: 10 – mammals, 10 – fish, 10 – birds and 10 – insects; collects water samples, test samples and understands data; understands water quality and how it impacts on wildlife and habitat; identifies soil structure; understands soil erosion and how to control around projects.

(Must complete one major project) Aquaculture; Stream Improvement; Wildlife Management; .

Landscape Greenhouse Management Basic (must complete all) measure the distance between two or more points; determine the elevation of two or more points; know how to take soil samples and test for pH; understands relationship between soil and plants; uses and maintains skid steer loader in respect to landscape; uses and maintains a backhoe in regards to landscape; uses and maintenance of farm tractors and implements in landscaping; understands small engine safety, maintenance and operation in landscaping equipment; demonstrates small engine knowledge and troubleshooting principles in landscaping equipment; identifies and uses hand tools correctly and safely; (Must complete one major project) greenhouse crops; Hydroponic crops; landscape installation; landscape structure; floriculture.

Construction Equipment Use and Maintenance Basic (must complete all) - backhoe use and maintenance; bulldozer use and maintenance; uses surveying equipment in construction; uses construction hand tools correctly; understands all safe practices involved in welding; identifies welding tools and their uses; completes specific welds using arc welder; completes specific welds using Mig welder; cuts steel using oxygen/propane torch. Optional (must complete three) articulating loader use and maintenance; excavator use and maintenance; skid steer use and maintenance; dump trucks use and maintenance; roller use and maintenance; grader use and maintenance; plate tamp/jumping jack/trash pump use and maintenance (Must complete one major project.) build a road; build a parking lot; build an athletic field; project of similar requirements.

II. Safety Students will: pass written test on various safety procedures and also demonstrate to the instructor's satisfaction that the student is aware of the correct safety procedures.

III. Integrated Academics Students will: research and collect data, facts, ideas, and concepts from a variety of sources (spoken, written, and electronic) for assigned projects and for a variety of purposes; interpret and analyze information collected to develop and implement an industry related project plan; incorporate relevant experience, data ideas, and other information to complete projects to industry standards; develop a summary project presentation that involves analysis, and evaluation of the project outcome; evaluate their own role, and the role of teammates using predetermined criteria in completion of the project; communicate with peers, teachers, customers, and employers for a variety of purposes.

IV. Employability Skills (SCANS) Students will: find, evaluate, choose, and use technical manuals, trade journals, textbooks, and electronic sources to gain critical information to stay current with industry trends; demonstrates positive attitude, initiative, and ambition in a structured work experience; complete work-related tasks on time; demonstrates professional ethical awareness through attitude, attendance, ambition and conduct; demonstrates ability to carry out diverse roles and support the work of others in the team environment; take responsibility to care for facilities, supplies and equipment; follow organizational procedures, and identifies needs and steps for personal and organizational growth; develop a career plan that sets goals and defines steps toward securing a job or further education and provides evidence of success through a portfolio, resume, and interview skills.

Units of Instruction

First Year

Forestry

Tree Identification – hard, soft, and ornamental species

Board Feet in Standing Timber, Saw Logs and Lumber

Safety, Maintenance and use of chainsaws

Uses and maintains a Dozer in harvesting a forest crop

Timber harvesting by NYS Forestry Standards

Woodlot management

Boundary line maintenance

Small engine principles and troubleshooting in Forestry Equipment

Must Complete Two Projects:

Uses a portable sawmill

Uses and maintains a Log skidder

Assist in a Christmas tree operation

Assist in a Maple syrup operation

Environmental Science

Wildlife Identification

Water Quality – Sample Collection, Testing, Data Collection, Impact on wildlife and habitat

Soil Science – Sample Collection, Testing, Improvement, Erosion

Must Complete One Project

Aquaculture

Stream Improvement

Wildlife Management

Bio-Diesel

Wind Energy

Landscape Greenhouse Management

Surveying – Distance, Elevation

Soil Science – pH, Effects on plant propagation
Plant Science – traditional, hydroponics
Safety, Maintenance, and Use of Skid Steer Loader in landscaping
Safety, Maintenance, and Use of Backhoe in landscaping
Safety, Maintenance and Use of Farm tractors in landscaping
Small engine safety, maintenance and operation in landscaping equipment
Small Engine knowledge and troubleshooting principles of landscaping equipment
Must Complete One Project

Greenhouse Crops

Hydroponic Crops

Landscape Installation

Landscape Structure

Floriculture

Construction Equipment Use and Maintenance

Backhoe use and maintenance

Bulldozer use and maintenance

Surveying in construction

Welding – Safe practices, tools and equipment, types of welds used

Welding with Arc Welder, Mig Welder

Cutting and Braising with Oxygen/Propane Torches

Must Complete Three

Articulating loader use and maintenance

Excavator use and maintenance

Skid steer use and maintenance

Dump trucks use and maintenance

Roller use and maintenance

Plate tamp/Jumping Jack/Trash Pump use and maintenance

Must Complete One

Build a road

Build a parking lot

Build an athletic field

Complete a project of similar requirements

Optional Training:

Commercial Driver's License

Students who are 18 years old will have the option of receiving CDL training. Students who qualify will:

Take the NYS permit test given by the Dept. of Motor Vehicles

Receive approximately 12 hours of "On-The-Road" training

Take a road test administered by the Dept. Of Motor Vehicles

**All permit fees, testing fees, and licensing fees are at the students expense

Second Year

Students Choose Area of Specialization: Forestry, Environmental Science, Landscape Greenhouse

Management, Construction Equipment Use and Maintenance

Review basic Technical skills and Safety

Completes a major project in area of specialization (on or off campus)

Completes a work experience in specialized area

**Students may choose more than one area if time allows

Optional Training:

Commercial Driver's License

Students who are 18 years old will have the option of receiving CDL training. Students who qualify will:

Take the NYS permit test given by the Dept. of Motor Vehicles

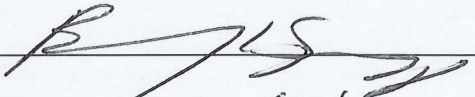
Receive approximately 12 hours of "On-The-Road" training

Take a road test administered by the Dept. Of Motor Vehicles

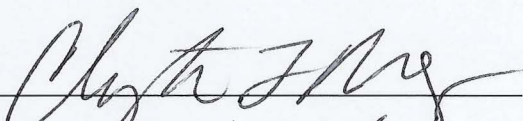
**All permit fees, testing fees, and licensing fees are at the students expense

ADMISSIONS OFFICE
PHONE: 315-684-6046
FAX: 315-684-6427





Date: 12/14/17

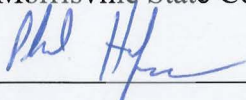
Dr. Barry Spriggs
Provost
Morrisville State College


Date: 12/7/17

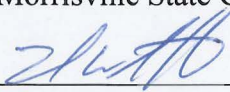
Dr. Christopher Nyberg
Dean-School of Agriculture and Natural Resources
Morrisville State College


Date: 12/6/17

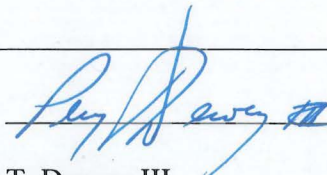
William Snyder
Professor/Chair-Environmental Sciences Department
Morrisville State College


Date: 12/6/17

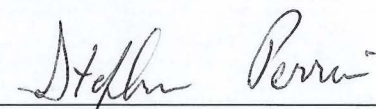
Dr. Philip Hofmeyer
Assistant Professor: Chair-Ag Engineering Tech/RR/RE
Morrisville State College


Date: 1/9/18

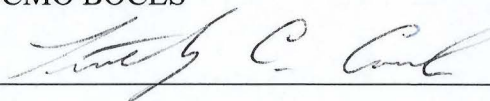
Zachary Whittaker
Instructor
DCMO BOCES-Harrold Campus


Date: _____

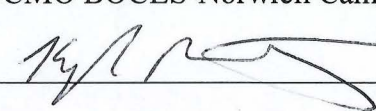
Perry T. Dewey III
Superintendent
DCMO BOCES


Date: 12/20/17

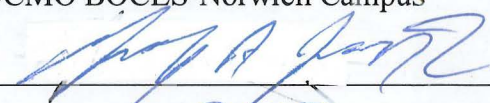
Stephen Perrin
Director of Career and Technical Education
DCMO BOCES


Date: 12-19-17

Tim Crumb
Instructor
DCMO BOCES-Norwich Campus


Date: 12-19-17

Kyle Boeltz
Instructor
DCMO BOCES-Norwich Campus


Date: 1-9-18

George Lang
Instructor
DCMO BOCES-Harrold Campus