#### Agriculture program

Virginia Western **Community College** 

School of **STEM** 

Virginia Western Community College considers the safety and security of students, faculty and visitors to be of paramount importance. The college's annual security report is available by contacting Virginia Western Campus Police Department or by visiting

www.virginiawestern.edu/police/incidents. To receive alerts regarding specific college events, inclement weather and campus emergencies, register for Virginia Western's mass notification system at www.virginiawestern.edu/alert.

VIRGINIA WESTERN

# Science, Mathematics



# Technology, Engineering & Agriculture Associate Degree associate of science 880-08

VIRGINIA WESTERN



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Please come by and visit our College; I am happy to talk with you about our collaborative programs and the opportunities they provide. Our commitment to education drives all that we do. We believe that by ensuring that the citizens of the Roanoke area have access to the most recent and relevant technology, the college and community will thrive. We are partners in education in Roanoke and welcome your interest in this field.



### AGRICULTURE PROGRAM

Working with college and community colleagues to develop this agriculture degree has truly been a labor of love for me. I have grown up in agriculture, having been raised, and currently living, on a sixth generation beef cattle family farm. That farm is what initially instilled in me a love of biology and spurred my career in science. I am proud that, with this new program, we can bring so many aspects of the agriculture industry to our students and contribute to this vital, technology-intensive and academically challenging industry. Agriculture is no longer "cows and plows." This field demands that participants understand animal and plant science, economics and technology, among other disciplines. Innovative thinking is a must and our agriculturists have to be problem solvers and collaborative partners to so many other industries. Agriculture is a multifaceted field, and we have designed this program so that students can purse any area of the field that they choose. We hope that by providing a versatile, customizable academic experience, we will empower students with skills, supportive colleagues and resources that will benefit them, as well as the greater community that agriculture serves. I believe in the power of agriculture to provide job opportunities for diverse groups of students with varying skill sets. I believe that agriculture will be called on more and more to provide food and fiber to citizens of our world. I believe in the power of agriculture to contribute to the health and wealth of our region. Please stop by Virginia Western to discuss this exciting new program, and the untapped potential that it represents.

page three/ Today's Agriculture

#### R R F А G

"Today's agriculture is no longer your grandparents' agriculture. Instead, we find today's agriculture to be the basis of a food and fiber system that is on the cutting edge in so many fields. It is not only about putting food on the table and clothes on your back for just your family anymore, but rather an industry that incorporates so many things such as science and technology, engineering, public relations, and even encompasses culinary, teaching, and journalism. It seems that no matter what your passion is, there could be a place in agriculture to spotlight it. There is a place for every age, gender and race within this industry. Although a very small percentage of the population is currently involved in production agriculture, we are now touching more people globally than ever before. Growing up on a farm and being part of agriculture my whole life makes it easy for me to be an advocate for agriculture, however it's going to take both those inside and outside of the industry to make it sustainable. Our family has provided a foundation for future generations to continue the legacy that we started."

#### Rosalea Potter

Owner. Buffalo Creek Beef and The Cattleman's Market Lexington, Virginia



Rosalea Potter exination Vira

Today's Agriculture / page four

### **Program Head of** the Agriculture Program

Agriculture Specialization is a unique program in its flexibility for students. The program can be tailored to each student and their professional and personal goals. It can be used as a pathway to transfer to a four -year program in animal sciences or other agriculture related fields, as a means to provide the background needed be successful in the management and growth of agribusiness.



## AGRICULTURE SPECIALIZATION

As program head, I am here as a resource for both pathways. I was raised in the farming industry and understand the challenges presented, and how education can be leveraged to provide avenues and ideas to approach those challenges. For the transfer student, I am here to help navigate the AS program here at Virginia Western as well as help prepare students for success at their chosen four-year institution.



Meet the Program Head / page six



Assistant Professor Biology, Plant Science and Dendrology Professor The plant sciences are integral components of a successful agricultural program. In the Plant Science course, students will gain an understanding of the interrelationships between climate, soil structure, nutrient and water availability, microbes, fungi, and plant growth and development. A diverse array of crops will be featured along with hands-on field labs and various agricultural and market site visits.

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#### DENDRO

Dendrology is equally important to agricultural systems. The ability to identify native tree species occurring on a site, along with the ability to evaluate their growth habits and health, will give the landowner an idea of soil quality, depth and water availability. The dendrology course will be a mix of weekly field labs identifying native tree and shrub species of the southern Appalachians, and lecture classes, in which students will learn the anatomy and physiology of woody plants.

Both of these classes will empower students with the knowledge and skills to cultivate and manage their plant assets. I look forward to sharing my love of plants with all agriculture students.



**Heather Butler** Assistant Professor, Biology, Plant Science and Dendrology Professor Dendrology / page eight

#### L O G Y

#### Associate Professor Biology, **Animal Science Instructor**

As an instructor in the Agriculture program, I enjoy working with students to help them master the essential material needed for them to be successful in their future careers while providing opportunities for them to explore the course content. I am especially excited about labs where students will have the opportunity to learn more about local industry and tour farms and businesses to learn more about what is currently happening in the Roanoke Valley and in Virginia. Ultimately, my goal is to provide an educational experience for students that will get them excited about their future and about Agriculture!

# **ESTRE**

#### G R С А IJ

The A.S. of Science in Agriculture from Virginia Western Community College is one of the most versatile and flexible degrees I have had the opportunity to work with and I love that. Depending on a student's goal, they can customize the degree to fit their needs. Everything from gaining skills that will be immediately applicable in the agriculture industry to completing the required prerequisites for transfer to a 4-year institution will be available within this program. This means that students are able to cater the degree to their needs and ultimately be successful in their goal.





#### Agriculture / page ten

#### R F U



#### STEM Program Advisor Agribusiness Instructor

The business side of agriculture is critically important as we prepare to provide food for a population of nearly 10 billion on the planet by 2050. Students in this program will benefit from an understanding of business and finance in an agricultural context, particularly if they plan to own or manage an agricultural business. This program will provide fundamental knowledge and practical tools to handle the business side of agribusiness.

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## LIST OF SPECIALIZED COURSES FOR AGRICULTURE PROGRAM

Agribusiness - This course will expose students to the practical business processes involved in starting and running an agriculture-based business, including choosing the structure of the business, creating financial statements, forecasting and budgeting, and how to raise capital for the business, as well as topics important for the individual business owner, including retirement, transition planning, and personal financial management.

Animal Science - This class will expose students to a variety of topics in animal science and include many learning opportunities to engage students. The introduction to Animal Science course will include an introduction to beef, sheep, horses, dairy, poultry, goats, and swine in order to provide a well-rounded experience for our students. Additionally, the goal is to focus on sustainable agriculture and management practices that will allow students to carry their agricultural knowledge into the future. In addition to lecture, students will participate in engaging tours of local farms and industry and will have the opportunity to see animal science in action and learn how different farmers have approached the wide range of opportunities that are present in animal agriculture.

Specialized Courses / page twelve

page thirteen / Specialized Courses



# LIST OF SPECIALIZED COURSES FOR AGRICULTURE PROGRAM

**Dendrology** - Dendrology is equally important to agricultural systems. The ability to identify native tree species occurring on a site, along with the ability to evaluate their growth habits and health, will give the landowner an idea of soil quality, depth, and water availability. The dendrology course will be a mix of (1) weekly field labs identifying native tree and shrub species of the southern Appalachians and studying their classification, and (2) lecture classes, in which students will learn the anatomical structures and physiology of woody plants.

Plant Science - The plant sciences are an integral component of a successful agricultural program. In the Plant Science course, students will gain an understanding of the interrelationships between climate, soil structure, nutrient and water availability, microbes, fungi and plant growth and development. A diverse array of crops and their growth and development are featured along with hands-on field labs and various agricultural and market site visits.

Welding - Introduces history of welding processes. Covers types of equipment and assembly of units. Stresses welding procedures such as fusion, non-fusion, and cutting oxyacetylene. Introduces arc welding. Emphasizes procedures in the use of tools and equipment. page fifteen / Agriculture Electives



# AGRICULTURE STUDENTS MAY CHOOSE FROM THE FOLLOWING ELECTIVES

Biological Problems in Contemporary Society Biotechnology Cell Biology Ecology Geology General Biology General Chemistry Introduction to Ecological Systems Introduction to Environmental Compliance Microbiology Physics Plant Life of Virginia Argiculture Electives / page sixteen

# Agriculture Associate Degree

Associate of Science 880-08

This curriculum is designed to serve various types of students. This curriculum is customizable for students who plan to transfer to a four year institution to complete a baccalaureate degree in veterinary sciences, or agricultural education. It can also be customized for students who plan to work on, own or manage an agricultural facility, or develop their own agribusiness.

Applicants must meet the requirements for admission to credit-level coursework established

Students who do not place into college-level English will be required to take developmental courses. Students who do not demonstrate proficiency in MTE 1, MTE 2, MTE 3, MTE 4 and MTE 5 will be required to take developmental courses. It is strongly recommended that developmental education requirements be completed as soon as possible.

Students planning to transfer to a four year institution should complete through MTE 9. Suggested science sequences for students who plan to transfer to a four year institution are either BIO 101 and BIO 102 or CHM 111 and CHM 112 .

Note: Virginia Tech's College of Agriculture and Life Sciences requires a 3.0 and degree completion for transfer in the fall as a junior in the College of Agriculture and Life Sciences. There is a Virginia Tech graduation requirement of two (2) years of the same language in high school or taken at a college.

Agriculture Associate Degree / page eighteen

#### Purpose

#### Admission Requirements

by the college.

#### **Developmental Requirements**

#### **Program Notes**





"The program will fill a gap in Agriculture Education and help to educate our future farmers, business leaders and





elected officials helping them guide our communities in the future."

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"Virginia Western Community College's Agriculture Associate Degree will offer options for the youth in our area who want a broad agricultural education. For many this program will allow them to continue working on family farms, returning after two years and/or transferring to a four-year program. The program will also offer youth who have not grown up on family farms to acquire a sampling of agriculture and help them plan their future."



Linda Wickline Co-chair Botetourt County Farm Bureau Women's Committee endorsements / page twenty

page twenty-one / endorsements



"With the affordability the community college system offers, combined with the high-quality instruction and course design of this program, I truly believe the possibilities are endless."

Kate Lawrence VCE Agriculture and Natural Resources Extension Agent Botetourt County



"The agriculture program offered through Virginia Western Community College is a huge asset for our community. Whether it will be used as a stepping stone to a four- year degree program or as the final step in the formal education of a person who plans to pursue a career in agriculture, it will open many opportunities for those individuals. I can see this program being attractive to young adults straight out of high school as well as adult learners looking for a career change. I cannot wait to see what the future holds for Agriculture at Virginia Western!"

Kate Lawrence VCE Agriculture and Natural Resources Extension Agent Botetourt County



endorsement / page twenty-four

"This announcement is another positive step forward for Botetourt and the Roanoke Region. We are fortunate to have Virginia Western Community College in our backyard. The quality of programs it offers is second to none, and I have no doubt that the newly developed agriculture program will have the same positive impact for our region."



Delegate Terry L. Austin 19th House District



"I am excited and supportive of the Virginia Western A.S. in Agriculture program and look forward to working with the professors and students in this collaborative effort."

> Katherine E. Carter Assistant Youth Livestock **Programming Specialist** Virginia Tech



"The Virginia Western A.S. in Agriculture provides a unique and much needed opportunity for students to explore their interest in an Agriculture, while receiving educational training and hands-on learning from experts and trained professionals. This new program opens the door to youth who may want to further their education in one of the many fields of Agriculture, but may not be ready to make the commitment to a four-year program. Completion of the program and an Associate's degree not only increases their



marketability in program. Completion of the program and an Associate's degree not only increases their marketability in the career world, but provides the option of continuing education and transfer into a four-year program. As the face of Agriculture changes, so must the opportunities for education."

Katherine E. Carter Assistant Youth Livestock Programming Specialist Virginia Tech

#### endorsements / page twenty-six



# notes

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