# **ADVANCE CTE EXCELLENCE IN ACTION AWARD**

**PROGRAM SUMMARY**

Advance CTE is pleased to announce a call for applications for the fifth annual Excellence in Action awards, through which we recognize and honor superior Career Technical Education (CTE) programs of study from across the nation.   
  
**CRITERIA FOR JUDGING**

Selected programs will exemplify excellence in:

* Implementing Career Cluster®-based [programs of study](https://careertech.org/programs-study);
* Maintaining effective employer and business partnerships;
* Demonstrating alignment to rigorous and relevant college- and career-ready expectations;
* Demonstrating a clear progression of knowledge and skills and student transitions across secondary and postsecondary systems;
* Integrating successful career guidance and advisement;
* Integrating high-quality work-based learning experiences;
* Highlighting alignment to workforce and employer needs in the community; and
* Providing concrete data on the program of study’s impact on student achievement and success at both the secondary and postsecondary levels.

**ELIGIBILITY**

* This award is open to any secondary or postsecondary schools or colleges in the United States. Your school or institution may submit one application per [Career Cluster](http://careertech.org/career-clusters);
* The program of study must have at least one full graduating class;
* Your program must be eligible to receive funding from the Carl D. Perkins Career and Technical Education Act;
* Applications that do not include data to demonstrate positive impact on student achievement will not be eligible for consideration.
* If your program has received in an award in the past, you may not apply for that same Career Cluster. However, your school or institution may apply in a different Career Cluster.

**AWARD SUBMISSION REQUIREMENTS**

Complete applications will contain the following:

* A completed application including supplemental materials by the application deadline of **November 15, 2017 at 5 p.m. ET.**
* At least one letter of support from an employer or business partner supporting the program of study; and
* At least one additional letter of support from a partner (education, community or business) of your choosing.
* *Optional:* Supplemental materials including photos, videos, news articles, etc., are welcome but not required.

The application must be submitted using [this form](https://careertech.org/2018-excellence-action-application). The application must be submitted in a Microsoft Word format. Supplemental materials, including the letters of recommendation, must be combined and submitted as **one** PDF document.

*Please note:*

* Submissions should **not** include any personally identifiable student.
* The application does not have a page limit, however, many questions do have a word limit. Please do not submit responses that go beyond this limit. Also, submissions that do not contain all the required materials (a completed application, two letters of support and supplemental materials in the correct formats) will not be advanced for consideration.

**WINNERS WILL RECEIVE**

* A banner to hang in their school or institution;
* A digital banner to use in email and print materials as they so choose; and
* Travel and one hotel room for one night in Washington, DC for a representative to be recognized at an awards ceremony to be held the week of April 4-6, 2018.

**WINNERS WILL ALSO BE FEATURED IN**

* A national press release, which will be distributed to national media.
* A winner-specific press release to distribute to local media;
* A standalone one-pager;
* A standalone blog on the [Learning that Works blog](http://blog.careertech.org/);
* Representation on the Advance CTE [website](http://www.careertech.org).
* Many past winners have been featured in national conferences, in briefs and reports, on webinars and in the media.

**HOW TO APPLY**

* Fill out the following application.
* Once you have finished, complete [this form](https://careertech.org/2018-excellence-action-application) and upload the following:
* Your full application saved as a Word document (.docx)
* All of your supplemental documents or evidence consolidated as one PDF document.

# **BACKGROUND INFORMATION**

1. Program of study name: Penn Farm / Animal Science
2. Point of Contact  
    Name: Karen Ferrucci

Email Address: Karen.ferrucci@colonial.k12.de.us

Phone Number: 302 323 2800 Ext 4108  
Address: 713 East Basin Road New Castle, Delaware 19720

1. Applicant’s School/College: William Penn High School
2. State: Delaware
3. Type of institution (click the box to check)

Area technical center

Career academy

Comprehensive high school

Community college

Technical college

Other (please specify)

|  |
| --- |
|  |

1. Career Cluster in which your program of study should be considered (Follow this link for a further explanation of each Career Cluster [careertech.org/career-clusters](http://careertech.org/career-clusters)) **(Select only ONE):**

Agriculture, Food & Natural Resources Career Cluster

Architecture & Construction Career Cluster

Arts, A/V Technology & Communications Career Cluster

Business Management & Administration Career Cluster

Education & Training Career Cluster

Finance Career Cluster

Government & Public Administration Career Cluster

Health Sciences Career Cluster

Hospitality & Tourism Career Cluster

Human Services Career Cluster

Information Technology Career Cluster

Law, Public Safety, Corrections & Security Career Cluster

Manufacturing Career Cluster

Marketing Career Cluster

Science, Technology, Engineering & Mathematics Career Cluster

Transportation, Distribution & Logistics Career Cluster

1. In three sentences or less, describe your program of study, including the secondary and postsecondary components and how long the program of study has been in place.

-Our Penn Farm program really gained momentum 5 years ago with a grant from the USDA. Each year close to 300 students participate in the program in some manner, and often we partner with local universities for trainings and guest lectures. The program consists of Animal Science, Plant Science, and Environmental Science pathways that culminate in a Penn Farm Couse. Students work the following facilities all year round: 4 acre farm, 1 acre hay field, 1 acre pollinator patch, apiary, goat and poultry area, aquaponics, and greenhouse.

1. Please check the geographical and demographic setting for your program of study and describe the geographic and economic conditions of the region served by the school.

Urban

Suburban

Rural

Other

-William Penn High School is located in New Castle, Delaware. Considered an urban setting, our high school is considered the largest in the state serving over 2,100 students each year. Our district has an economic population that labels us as a Title 1 school. By simple definition this means that over 70% of our students are from low income families and therefore receive free or reduced lunch. In this aspect I feel the Penn Farm program truly provides a great service to our students by providing less expensive fresh vegetables throughout the year that may otherwise be unavailable to them. We are located approximately ten minutes from northern Delaware’s most populated city, Wilmington. New Castle, located along the Delaware River, is one of the oldest continuously occupied towns in the region known as the Delaware Valley.

# **STUDENT POPULATION & DATA**

1. Please describe your program of study’s demographic and outcome data for the most recent academic year(s). It is our strong preference to have data from both secondary and postsecondary levels. If this is not available, please provide an explanation as to why the data from the other learner level is not available. Applications that do not include data to support positive impact on student achievement will not be eligible for consideration. (100 word limit)  
     
   -Our program is as diverse as our school’s population. We have students from a variety of backgrounds ethnically, ability educationally, and economically. Many of our students may not complete high school, or go to college; hence the difficulty finding post high school data), but our program affords them many opportunities to gain skill sets that can be used once they leave our program. We consider this a positive impact on our students. Our program also offers summer employment, allowing students to gain skills in a professional setting in the field of agriculture.

**NOTE**: Please specify if and when you are using a percentage with a different denominator (e.g., seniors) than the one listed.

**When completing the data section, please only use percentages and include data that is from your program of study, not the entire school/institution. Additionally, only include data where students are eligible to participate (e.g., only seniors in high school will be eligible for the section asking for percent of seniors who graduated high school, so only seniors should be included in that data; if your work-based learning only occurs within a specific grade level, only include them in your data for that category.)**

|  |  |  |  |
| --- | --- | --- | --- |
| SCHOOL YEAR | 2014-15 | 2015-16 | 2016-17 |
| **SECONDARY-LEVEL DATA** | | | |
| **Total number of students served by your program of study** |  |  |  |
| % male students | % | % | % |
| % female students | % | % | % |
| % minority students | % | % | % |
| % low-income students | % | %  Please see  Appendix Item 5 | % |
| % students with disabilities | % | % | % |
| % English language learners | % | % | % |
| Other relevant *demographic* data |  |  |  |
| % of students who earned postsecondary credit (dual enrollment, AP, etc.) | % | % | % |
| % of students who earned an industry-recognized credential | % | % | % |
| % of students who participated in work-based learning | % | % | % |
| % of seniors who graduated high school (who were eligible/seniors) | % | % | % |
| % of graduates who enrolled in postsecondary education (who were eligible/seniors) | % | % | % |
| % of graduates who entered the workplace and/or military (who were eligible/seniors) | % | % | % |
| **POSTSECONDARY-LEVEL DATA** | | | |
| **Total number of students served by your program of study** |  |  |  |
| % male students | % | % | % |
| % female students | % | % | % |
| % minority students | % | % | % |
| % low-income students | % | % | % |
| % students with disabilities | % | % | % |
| % English language learners | % | % | % |
| Other relevant *demographic* data |  |  |  |
| % of students who completed postsecondary/earned a degree or certificate (who were eligible) | % | % | % |
| % of students who earned an industry-recognized credential (who were eligible) | % | % | % |
| % of graduates who entered the workplace and/or military (who were eligible) | % | % | % |
| % of graduates who transitioned to further postsecondary education (who were eligible) |  |  |  |

1. Provide links to the source of the above data. If the links are not publicly accessible, please explain the source of the data.

-This data above was sourced from our department of education’s confidential records. Mr. Tim Lantz aided in retrieving this data.

1. How does your school or institution ensure equitable access and outcomes for students with diverse backgrounds? (150 word limit)  
   -Our program attempts to include many hands on activities to allow students with different abilities to still succeed. With this variety in hands on opportunities, many students are able to pick skills that interest them, and excel in their areas. We strive to achieve a supportive working environment which encourages students to challenge themselves, work in teams, and try new skills sets down on the farm. When needed, we work with Para-Educators, and ELL teachers to meet students at their current ability level. The benefits of teaching hands on skills, and having students coach others, we’re able to model skills which bridges these often difficult gaps in abilities of students.
2. If applicable, what strategies or technologies do you use to close access gaps? (e.g. integrated digital learning, virtual work based learning.)   
   -We use many opportunities to model skills for students. By modelling we’re able to chunk information for students so the skill is less overwhelming. We take time to explain the skills about to be used, and the purpose behind each activity. We also break students into teams regularly, and assign group leaders, that in effect, coach the students in their group. These coaches may be upper classmen in our program, and therefore are better able to model, and coach on a more one to one basis for students who need this type of support.
3. What activities does your school or institution do to recruit elementary, middle, high school students and/or adult learners into the program of study? Please provide examples. (150 word limit)  
   -Our high school really takes great time and effort to recruit and ensure up and coming students are aware of all their opportunities here in the William Penn Agriculture Dept. Each year we (the Ag Dept) hosts two Penn Farm Days, where students from around the district visit the farm and enjoy a day working and learning on the farm. WPHS holds yearly STEAM Showcases, in which we have students work an informational table and chat with the community, other students, and parents about what they have enjoyed about the program. We also have our FFA Leadership club visit middle schools to build interest in this area of our program. Lastly, we participate in all the district wide activities including: Homecoming Festival, Kindergarten Carnival, and more.
4. Is your program of study associated with a Career Technical Student Organization (CTSO)? If so, which one(s) and in what way(s)? (Check the [approved list](http://www.ctsos.org/ctsos/) of CTSOs) (50 word limit)

-Our Ag Dept has an ever growing FFA. The FFA is a National Organization that focuses on personal growth, premier leadership, and career success. Often subjects taught in class relate to FFA competitions, and FFA is a regular part of our courses throughout the year.

1. Describe how career guidance/advisement is integrated into your program of study to support students’ completion of the program of study and entry into additional education/training and/or a successful career. Where applicable, describe the tools (individual career and academic plans, career exploration websites, etc.) that are provided to learners and how they are used. (200 word limit)

-Our Penn Farm program attempts to highlight future career opportunities through multiple initiatives. First, we attempt to include many different guest speakers who share their knowledge, passion, and educational background with students to highlight these post-secondary options for our students. Our students also receive support with “soft skills” such as resume building throughout implementation of the AET Record Book system. Students have the opportunity to build resumes throughout their years in the program. We often visit colleges as well, and ensure students view the local college and university facilities and programs to help them gain a better understanding of in-state opportunities for post-secondary education. Lastly, we often encourage students to participate in our FFA programming which affords a more diversified resume, and networking opportunities. The opportunity to increase skills in these areas often affords our students more confidence as they enter the work force.

# **COLLEGE- AND CAREER-READY STANDARDS/EXPECTATIONS**

1. Please describe how your program of study was developed and how it ensures students are academically and technically prepared for postsecondary education and careers. Please also address the following:
   1. How were employers involved in the development and/or maintenance of your program of study? – We regularly encourage outside employers to visit our classes, and serve as mentors to students and staff alike. This helps ensure we are moving in the correct direction with current employment trends.
   2. How does this program of study meet the economic needs of your community? –Our community contains many low income families. Our program strives to provide healthy food choices that are fresh and local to these families through school lunches, free summer feed programs, educational presentations on healthy foods, and more. Through this service we are better able to serve our community whom many otherwise not be introduced to these healthy foods, or have them otherwise available.
   3. How does this program prepare students for postsecondary education? (if applicable)- Yes, we believe our program does prepare our students for post-secondary education. We strive to push our students to collaborate with others in order to increase these skills for the future. We also introduce our students to a variety of post-secondary employment options through guest speakers. Lastly, the application of hands on learning allows our students to attend post-secondary institutions with confidence in their experience.
   4. How were both secondary and postsecondary educators involved in the development and/or maintenance of the program of study? (500 word limit) -We strive to work regularly with post-secondary local institutions on a variety of projects involving students. Local universities will often be consulted when it comes to new projects, or updated applicable certifications for students. From building facilities, or aiding in research, our program often relies on post-secondary and commercial career oriented partners to ensure the work students are doing is applicable in a real world setting.
2. Which technical, academic and/or employability skill standards does your program of study incorporate at the secondary and/or postsecondary level and how? (Please list the standards you use and be specific regarding how your program uses industry, national, state and/or locally-developed standards) (250 word limit)

-Our program has the ability to reach a variety of standards in the field of Agriculture. Plant Science, Animal Science, and Environmental Science are all areas in which are students are able to learn while completing the program. We also are able to touch on teaching standards that are cross curricular in the following areas: Marketing/Business, Culinary Arts, and Next Generation Science Standards. Some of these standards are listed in Appendix Item 1, located after this application.

|  |  |
| --- | --- |
| **Standard Types** | **Please list the standards your program of study uses and how it uses them below:** |
| Academic Standards | **PLEASE SEE APPENDIX ITEM 1** |
| Career Cluster or Technical Standards | **PLEASE SEE APPENDIX ITEM 1** |
| Employability Standards | **PLEASE SEE APPENDIX ITEM 2** |
| Other |  |

# **SEQUENCE OF COURSES & CREDIT TRANSFER**

1. Please fill out the chart below, and describe your program of study’s course sequence by grade level, including the relevant or required academic and technical courses, as well as other required activities.   
     
   Make sure to highlight the course sequence that bridges secondary and postsecondary education, and explain how your program of study ensures students gain the broader Career Cluster-level knowledge/skills and, over time, gain the more specific occupation-level knowledge/skills as they progress through the program of study. You can also include graphics or [plans of study](http://careertech.org/sites/default/files/PlanStudy-CareerCluster-AG_0.pdf) of the course sequence in lieu of filling out the chart below.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Grade/Year | English/Language Arts | Math | Science | Social Studies/ Sciences | Other Required Courses/Other Electives/Learner Activities | CTE Courses and/or Degree Major Courses |
| **9** |  |  |  |  |  |  |
| **10** |  |  |  |  | Please See Appendix Item 4 |  |
| **11** |  |  |  |  |  |  |
| **12** |  |  |  |  |  |  |
| **13** |  |  |  |  |  |  |
| **14** |  |  |  |  |  |  |
| **15** |  |  |  |  |  |  |
| **16** |  |  |  |  |  |  |

1. How do you ensure that CTE instruction and coursework is integrated with core academics?

-Whenever possible we attempt to utilize cross curricular standards when working with Penn Farm Program students. We find that students often perform better when these initiatives are successfully integrated into our Penn Farm Program. We often have students complete reflective writing prompts, or tackle controversial issues in which debates are formulated. We also utilize math when planting fields and working with feed rations for animals. Lastly, we afford students the opportunity to dive into the history of Agriculture on an international, national, and local scale.

1. List the opportunities for students to earn articulate and/or transcript dual enrollment credit across K-12 and postsecondary, such as AP/IB, dual and concurrent enrollment, capstone experiences and/or transcripted credit articulation agreements. (250 word limit)  
   -Students are able to earn college credit in the plant science portion of the Penn Farm Program through Tech Prep Delaware. In the future students will be able to earn the same type of credit from the Animal Science focus in the Penn Farm Program. Our school currently offers AP Environmental Science. The Environmental Science Program courses can also culminate in Penn Farm.
2. Please provide information on **at least three partnerships** with *education institutions and groups* your program of study has, and describe how these partnerships have been built, maintained and sustained over time. Use this space to specifically address the secondary and postsecondary partners that contribute to and maintain this program of study.

|  |  |  |
| --- | --- | --- |
| **Education Partnership Name** | **What role does this partner have in directly supporting your program of study?** | **How many years has this partnership been active, and how was this partnership developed?** |
| University of Delaware | Provides college visits, guest speaker opportunities, and aides in planning facilities. We attempt to have guest speakers each winter, and visit the college | 5+ |
| Delaware State University | Provides college visits, guest speaker opportunities, and aides in planning facilities | 3+ |
| Penn State University | Provides educational opportunities for teachers through cooperative extension | 1+ |
|  |  |  |

# **ALIGNMENT WITH INDUSTRY AND BUSINESS NEEDS**

1. Please describe how your program of study is aligned with the needs of the workforce and industry in your community. Make sure to include information on how the program of study helps meet workforce demand identified by business and industry. If applicable, what labor market data does your program of study use to align to workforce needs? (250 word limit)

* For our local community we aim to obtain local internship opportunities and volunteer opportunities for our students to increase their skills and networking as it relates specifically to New Castle, DE. Labor and industry statistics indicate that for our state, the need for agriculture jobs will be dropping slightly in the future. Armed with this information, we have tailored our program to serve our students in a variety of hands on, and “soft skills” that will benefit students in working environments other than agriculture. In the United States crop employment rates are decreasing as well, but this is more do to the increase in efficiency in farming across the board. We teach our students a variety of efficient and sustainable farming techniques as these are current industry trends. Lastly, Animal workers employment will rise by 11% in the future which is higher than the national average. We strive to ensure all Penn Farm students gain practical experience working with animals. Please see appendix item 3 for details.

1. Are ALL students in the program of study required to participate in a work-based learning opportunity? **YES** or NO.
2. Please describe the work-based learning opportunities available to students who participate in this program of study. (250 word limit)

-Students who complete the pathway with Penn Farm will have a work based learning opportunity that takes place at the school’s 4 acre farm adjacent to the school’s property. We work all year round, so students are better able to participate on a working farm. Some upper level students are also required to complete a Supervised Agriculture Experience through FFA in which they will go out into the community and gain practical experience in an Ag related field of their choosing. This SAE is completed outside of class time, and allows students to choose their location of “employment”. Most often these experiences may end with the student being offered more volunteer time, or a paid position at the facility. Students also gain record keeping skills, and soft skills that are desired in any work placement such as working with others, customer service, and effective communication.

1. Please list the industry-recognized credentials/certifications/licenses offered/required. If your program of study does not include industry-based credentials/certifications, please explain why. (200 word limit)

|  |  |
| --- | --- |
| **Offered** | **Required** |
| GHP/GAP | GHP/GAP |
| Tractor Safety NSTMOP | Tractor Safety NSTMOP (becoming required by 2019) |
| FAMANCHA (only for Animal Science focus) |  |

1. Please describe how you ensure the instructors teaching this program of study keep up-to-date on advancements in the workplace, such as participating in externships and/or requirements to have current industry credentials. (100 word limit)

**-Out teachers participate actively in the DAAE (Delaware Association of Agriculture Educators), and NAAE (National Association of Agriculture Educators) which provide yearly industry based professional development and trainings. Some teachers also attend Cooperative Extension trainings in relation to their area of study. For example, Tractor Safety driving through Penn State, and FAMANCHA training through Delaware State University.**

1. Please provide information on **at least three** *business, industry and/or labor* partnerships your program of study has, and describe how these partnerships have been built, maintained and sustained over time.

|  |  |  |
| --- | --- | --- |
| **Business/Industry Name** | **What role does this partner have in directly supporting your program of study?** | **How many years has this partnership been active, and how was this partnership developed?** |
| Honeysuckle Acres LLC | Student volunteer opportunities in the area of animal science, guest speaker opportunities, and aides in planning facilities. We continuously reach out to this partner for mentoring and input | 2+ |
| Delaware Bee Keepers Association | Student volunteer opportunities in the area of apiology , guest speaker opportunities, and aides in planning facilities. We continuously reach out to this partner for mentoring and input | 3+ |
| DuPont | Provided funding and input on Apiary facilities and wildflower meadow facility. We continue to maintain a healthy relationship with DuPont through their Weed Seed Collection program for research studies. | 1+ |
|  |  |  |
|  |  |  |

1. Please feel free to use the space below to share any other information or evidence of success of your program of study and the students who participate. (Optional)

1. If applicable, please provide more detail on any partnerships your program of study has that have not been mentioned already. This includes community groups, non-profits, volunteer organizations, etc. Describe how these partnerships have been built, maintained and sustained over time. (Optional)

|  |  |  |
| --- | --- | --- |
| **Additional Partnerships** | **What role does this partner have in directly supporting your program of study?** | **How many years has this partnership been active, and how was this partnership developed?** |
| Delaware Greenways | Provides input in facility management on site (4 acres) at our farm | 5+ |
| USDA | Provided funding to build successful foundation for farm to school program | 5+ |
| Colonial School District Nutrition Services | Provides outlet and processing, as well as serving, produce harvested from the Penn Farm Program | 5+ |

**SUBMIT YOUR APPLICATION**

**SUBMIT YOUR APPLICATION**

* Fill out this application.
* Once you have finished, complete [this form](https://careertech.org/2018-excellence-action-application) and upload the following:
* Your full application saved as a Word document (.docx)
* All of your supplemental documents or evidence consolidated as one PDF document.

**THANK YOU!**

Thank you for completing this application! The selection committee will convene in December 2017 to review the applications and make final decisions. You will know the status of your application by January 25, 2018. The programs of study will be evaluated based on their effective leveraging of partnerships, alignment to rigorous and relevant college- and career-ready expectations, clear progression of knowledge and skills across secondary and postsecondary systems, integration of successful career guidance/advisement, and key indicators of student success.

Don’t forget to use the Excellence in Action award submission checklist to make sure you’ve completed your application in its entirety.

We look forward to learning more about your program!

For questions, concerns please contact [awards@careertech.org](mailto:awards@careertech.org).

**APPENDIX ITEM 1: TEACHING STANDARDS AND CAREER CLUSTER STANDARDS**

|  |  |  |
| --- | --- | --- |
| **Area of Academic Focus** | **Teaching Standard** | **Activity/ How is it met through program implementation?** |
|  | PHS.01: Identify and classify plant materials. | Students identify produce from seed, to seedlings, to fruiting bodies for harvest |
| **Agriculture PLSC , ANSC, EnviSci** | PHS.02: Understand plant anatomy and physiology. | Students gain an understanding through the entire planting to harvest process, and must understand the parts of the plant for proper management and harvesting |
|  | PHS.03: Demonstrate propagation techniques for various plant materials. | Students propagate plants from seeds, to seedlings, then eventually transplant into the field |
|  | PHS.04: Understand the concepts of horticultural pest management. | Students gain an understanding through practicing Pest Management strategies and explore Integrated Pest Management, and the use of beneficial insects to protect crops |
|  | PHS.05: Perform cultural practices related to the production and maintenance of horticultural crops. | Students maintain the fields throughout the school year to prep, clear, and utilize the land using various methods to explore culture differences (low tillage, plastic laying, Japanese paper pots) |
|  | PHS.07: Understand management decisions related to horticultural operations. | Students are a part of the entire process from planning, to planting, to harvesting and utilizing the produce. |
|  | PHS.08: Develop an understanding of technological advancements in the horticultural industry | Students are trained on safety equipment throughout the year including small engine and large engine machinery |
| **Agriculture PLSC , ANSC, EnviSci** | AS.01: Demonstrate the correct use of safety procedures related to animal production. | Students care for the poultry and apiary throughout the school year |
|  | AS.03: Identify breeds of economically important animal species. | Students are taught breeds of poultry that produce most effectively and raise these breeds on property |
|  | AS.05: Explain and describe the functions of nutrients and the physiology of digestion | Students provide appropriate diet for poultry including scrapes from harvest, and culinary classes |
|  | AS.06: Recognize animal health concerns and recommend appropriate action. | Students are taught how to recognize common health concerns and how to best address them to ensure a safe food supply |
|  | AS.07: Gain practical experience with animal management. | Students care for animals regularly. Envi Sci plants beneficial plants for our bees, Culinary cares for their poultry flock, Ag courses care for their poultry flocks |
|  | AS.09: Understand processing safety and consumer safety associated with animal marketing | Students learn proper handling and management techniques to ensure a safe food supply |
|  | AS.10: Understand the legal responsibilities associated with animal production and management. | Students explore the area of food safety and the producer and processors responsibility for consumer safety |
|  | ENR.02.01: Identify natural resource systems, processes, and relationships | Students learn and explore the importance of biodiversity of insect life as it relates to crop production including beneficial insects and beneficial plants. |
|  | ENR.01.02: Identify types of pollution and their effects on the environment | Students explore and see first hand the consequences of human interaction in a industrial capacity when exploring the farm, its topography , water use, and how to meet production needs while caring for the planet. We farm using as organic methods as possible. |
|  | ENR.02.03: Explore conventional and alternative supplies to define energy sources | Students are able to visit the Solar panels located on the property where we farm (they are not part of the program but available for  “study) |
| <http://www.doe.k12.de.us/Page/2453> | NRES.04: Recognize the impact of both pollution and recycling | Students explore recycling of scrapes for animal feed, and implement recycling practices in the lunch and areas for scrapes of food from nutrition services which often contain produce from our farm |
|  | NRES.02: Recognize the importance of water as it relates to the environment and natural resources | Students gain a better understanding of the effect of drought on production crops, and discuss regularly the water usage on the farm for crop production |
| **Next Generation**  **Science**  **Standards** | HS-LS2-2: Use mathematical representations to support and revise explanations based on evidence about factors affection biodiversity and populations in ecosystems of different scales | Students participate in a biodiversity survey of the farm and school area for comparison |
|  | HS-LS2-6: Evaluate the claims, evidence, and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem | Students discuss and visit the Farm ecosystems, as well as the small gardens located throughout our school’s property. Students also explore the habitats in the wooden areas surrounding the farm. |
|  | HS-LS2-7: Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity | Students discuss and see first hand the effect of commercial crop production on the environment in the forms of water use, erosion, and native vs. invasive plant species. |

**APPENDIX ITEM 2: Employment Skill Set Standards**

**Animal Skills:** This first skill set was taken from the Certified Vet Assistant Program from Texas A & M University. Our program affords students the opportunity to learn from of these skills. You can find an outline of this program at the following link: <https://aevm.tamu.edu/4-h-veterinary-science/certified-veterinary-assistant/>

Highlighted items are skill sets in which students can gain experience. Found on the PDF attachments

**GHP/Gap Training**: information gathered from: <https://www.ams.usda.gov/services/auditing/gap-ghp>

Our students participate in GHP/GAP training and become certified through the University of Delaware cooperative extension agency. Students must complete the training and become certified before handling food and produce on the program’s 4 acre farm adjacent to the school. According to the USDA GHP/GAP training is described on their website:

“Good Agricultural Practices (GAP) and Good Handling Practices (GHP) are voluntary audits that verify that fruits and vegetables are produced, packed, handled, and stored as safely as possible to minimize risks of microbial food safety hazards.”

**Tractor Safety Training:** Recently added to the program, students have the ability to be certified. Information about this program, that is provided through Penn State Cooperative Extension, can be found here: <https://extension.psu.edu/national-safe-tractor-and-machinery-operation-program>

**APPENDIX ITEM 3: Labor Stats**

United States: Agriculture Worker

| **Quick Facts: Agricultural Workers** | |
| --- | --- |
| [**2016 Median Pay**](https://www.bls.gov/ooh/Farming-Fishing-and-Forestry/Agricultural-workers.htm#TB_inline?height=325&width=325&inlineId=qf-wage) | $22,540 per year  $10.83 per hour |
| [**Typical Entry-Level Education**](https://www.bls.gov/ooh/Farming-Fishing-and-Forestry/Agricultural-workers.htm#TB_inline?height=325&width=325&inlineId=qf-education) | [See How to Become One](https://www.bls.gov/ooh/Farming-Fishing-and-Forestry/Agricultural-workers.htm#tab-4) |
| [**Work Experience in a Related Occupation**](https://www.bls.gov/ooh/Farming-Fishing-and-Forestry/Agricultural-workers.htm#TB_inline?height=325&width=325&inlineId=qf-experience) | None |
| [**On-the-job Training**](https://www.bls.gov/ooh/Farming-Fishing-and-Forestry/Agricultural-workers.htm#TB_inline?height=325&width=325&inlineId=qf-training) | Short-term on-the-job training |
| [**Number of Jobs, 2014**](https://www.bls.gov/ooh/Farming-Fishing-and-Forestry/Agricultural-workers.htm#TB_inline?height=325&width=325&inlineId=qf-number-jobs) | 761,700 |
| [**Job Outlook, 2014-24**](https://www.bls.gov/ooh/Farming-Fishing-and-Forestry/Agricultural-workers.htm#TB_inline?height=325&width=325&inlineId=qf-outlook) | -6% (Decline) |
| [**Employment Change, 2014-24**](https://www.bls.gov/ooh/Farming-Fishing-and-Forestry/Agricultural-workers.htm#TB_inline?height=325&width=325&inlineId=qf-emp-change) | -47,500 |

United States: Animal Worker

| **Quick Facts: Animal Care and Service Workers** | |
| --- | --- |
| [**2016 Median Pay**](https://www.bls.gov/ooh/personal-care-and-service/animal-care-and-service-workers.htm#TB_inline?height=325&width=325&inlineId=qf-wage) | $22,230 per year  $10.69 per hour |
| [**Typical Entry-Level Education**](https://www.bls.gov/ooh/personal-care-and-service/animal-care-and-service-workers.htm#TB_inline?height=325&width=325&inlineId=qf-education) | High school diploma or equivalent |
| [**Work Experience in a Related Occupation**](https://www.bls.gov/ooh/personal-care-and-service/animal-care-and-service-workers.htm#TB_inline?height=325&width=325&inlineId=qf-experience) | None |
| [**On-the-job Training**](https://www.bls.gov/ooh/personal-care-and-service/animal-care-and-service-workers.htm#TB_inline?height=325&width=325&inlineId=qf-training) | [See How to Become One](https://www.bls.gov/ooh/personal-care-and-service/animal-care-and-service-workers.htm#tab-4) |
| [**Number of Jobs, 2014**](https://www.bls.gov/ooh/personal-care-and-service/animal-care-and-service-workers.htm#TB_inline?height=325&width=325&inlineId=qf-number-jobs) | 241,600 |
| [**Job Outlook, 2014-24**](https://www.bls.gov/ooh/personal-care-and-service/animal-care-and-service-workers.htm#TB_inline?height=325&width=325&inlineId=qf-outlook) | 11% (Faster than average) |
| [**Employment Change, 2014-24**](https://www.bls.gov/ooh/personal-care-and-service/animal-care-and-service-workers.htm#TB_inline?height=325&width=325&inlineId=qf-emp-change) | 25,700 |

Delaware Labor Stats: Agriculture

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **NAICS** | **Industry** | **2012** | **2022** | **10-Year Job Change** | **Annual Growth Rate** |
|  | **Total Employment, All Jobs** | **285,440** | **312,950** | **27,510** | **0.9%** |
|  | **Total Self-Employed and Unpaid Family Workers, Primary Job** | **12,020** | **13,430** | **1,410** | **1.1%** |
|  | Self-Employed Workers, Primary Job | 11,900 | 13,310 | 1,410 | 1.1% |
|  | Unpaid Family Workers, Primary Job | 120 | 120 | 0 | 0.0% |
|  |  |  |  |  |  |
| **11** | **Ag, For. Fishing** | **680** | **590** | **-90** | **-1.4%** |
| 111 | Crop Production | 550 | 480 | -70 | -1.4% |
| 112 | Animal Production | 120 | 100 | -20 | -1.8% |
| 115 | Support Activities for Agriculture and Forestry | 10 | 10 | 0 | 0.0% |

**Appendix Item 4: Program of Study for Penn Farm:**

Below you’ll find the program of study instituted by William Penn High School for Penn Farm. This program of studying is being submitted to the state by Nov. 2018. We currently have active Programs of study in Animal Science and Plant Science. Dr. Bart Gill at Delaware Dept. of Education has confirmed this information.

This can be found on the PDF Attachments

**Appendix Item 5: Information available on enrollment, etc.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **William Penn HS (490) Animal and Plant Science Courses Demographics - 2015 to 2017 School Year** | | | | |
|  |  | **SchoolYear** | | |
|  |  | **2015** | **2016** | **2017** |
|  |  | **Column N %** | **Column N %** | **Column N %** |
| **Sex** | **F** | ***45.8%*** | ***51.5%*** | ***51.0%*** |
| **M** | ***54.2%*** | ***48.5%*** | ***49.0%*** |
| **minority** | **No** | ***37.4%*** | ***40.1%*** | ***35.4%*** |
| **Yes** | ***62.6%*** | ***59.9%*** | ***64.6%*** |
| **IsSpecialEd** | **No** | ***83.2%*** | ***76.6%*** | ***81.3%*** |
| **Yes** | ***16.8%*** | ***23.4%*** | ***18.7%*** |
| **IsELL** | **No** | ***95.4%*** | ***95.2%*** | ***91.4%*** |
| **Yes** | ***4.6%*** | ***4.8%*** | ***8.6%*** |
| Active students end of year | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **William Penn HS (490) Animal and Plant Science Courses - 2015 to 2017 School Year** | | | | |
|  |  | **SchoolYear** | | |
|  |  | **2015** | **2016** | **2017** |
|  |  | **Count** | **Count** | **Count** |
| **CourseTitle** | **Animal Science I** | ***62*** | ***27*** | ***57*** |
| **Animal Science II** | ***0*** | ***4*** | ***14*** |
| **Intro to Agriscience** | ***96*** | ***67*** | ***115*** |
| **Penn Farm** | ***31*** | ***26*** | ***30*** |
| **Plant Science I** | ***37*** | ***25*** | ***20*** |
| **Plant Science II** | ***12*** | ***18*** | ***21*** |
| **Total** | ***238*** | ***167*** | ***257*** |
| Active students end of year | | | | |