
Wisconsin Youth Apprenticeship

AGRICULTURE, FOOD & NATURAL RESOURCES (AFNR)

PROGRAM GUIDE



Department of Workforce Development

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AGRICULTURE, FOOD & NATURAL RESOURCES (AFNR) YOUTH APPRENTICESHIP PROGRAM GUIDE

Description

Agricultural duties vary widely from raising plants and livestock to operating large equipment to caring for companion animals. Natural Resources jobs involve working directly with the natural environment including air, water, and land. Job openings are expected to be numerous with opportunities for agricultural equipment operators, and crop, greenhouse, and nursery farm workers to be particularly plentiful. Additionally, employment for veterinary technologists is expected to grow much faster than average. Environmental science technician jobs, that monitor the environment and investigate sources of pollution, will grow faster than average.¹ Market pressures will continue the long-term trend towards consolidation into fewer and larger farms and ranches; however, recent scientific studies are supporting the trend of utilizing more locally grown and locally processed agricultural products.

The Agriculture, Food and Natural Resources (AFNR) career cluster involves careers in the planning, implementation, production, management, processing, and/or marketing of agricultural commodities and services. This Youth Apprenticeship occupational area focuses on five pathways within the Agriculture, Food and Natural Resources industry: Animal Systems, Plant Systems, Power, Structural and Technical Systems and Environmental Systems. Career exploration in the Food Product and Processing System pathway can be accomplished under the Manufacturing Youth Apprenticeship program.

People who work in the Plant Systems pathway study all types of plants and their growth. They are the producers of the food, feed, fiber, and landscaping crops meant to support a growing population while conserving natural resources and maintaining the environment. Careers in the Animal Systems pathway vary from breeding, raising and processing animals and animal products to the care and feeding of all sorts of animals themselves. Agricultural and farm equipment mechanics are responsible for the maintenance, repair, and installation of machines that increase the efficiency of farming activities, such as planting, harvesting, and irrigating crops. Agricultural mechanics also service and repair smaller lawn and garden equipment operated by suburban homeowners. Modern farm equipment utilizes computers, electronics, and hydraulics, which means that workers need to continually update their skills. In fact, what was once a general repairer's job has become a more specialized technical field in the farm industry. As a result, many farmers rely on farm equipment dealers to maintain and

¹ U.S. Dept of Labor, Occupational Profiles, www.bls.gov. Accessed 4/22/13.

repair their machinery because the equipment is more complex than in the past. Another occupation in this pathway is a parts specialist. Within the industry there is a need for sales and customer service representatives to assist internal and external clients with parts management, marketing, and equipment maintenance. Environmental Systems pathway careers include occupations involved in water and air pollution control, recycling, waste disposal and public health issues.²

The Youth Apprenticeship Program was approved by the Wisconsin State legislature in 1991 to provide a direct link between business, schools, and youth to meet the demands of technology, teamwork, communication, and leadership.

Wisconsin Youth Apprenticeship (YA) is a rigorous program that combines academic and related technical classroom instruction with mentored on the job learning for high school students. By training youth apprentices, employers play an active role in shaping the quality of their future workforce, improving the skill level of potential workers, and enhancing their competitive positioning in the marketplace. Employers, school districts, local consortiums, parents, and potential YA students are referred to the *Youth Apprenticeship Program Operations Manual* (http://dwd.wisconsin.gov/youthapprenticeship/pdf/program_operations_manual_2015.pdf) for general YA Program requirements.

Objective

The Wisconsin Agriculture, Food and Natural Resources (AFNR) YA Program is designed to provide students with a working understanding of occupational and technical skills in four of the seven pathways within the AFNR industry. This program provides the framework for educators and industry to work together to produce work-ready, entry-level employees that will compete favorably in a global market, as well as, provide for post-secondary educational advancement while integrating work-based learning in the school and worksite.

The following features distinguish a YA Program from other similar youth school to work programs.

- Level Two Youth Apprenticeship is a two-year program for high school juniors and seniors with an interest in a particular field; e.g., farming crops. One-year Youth Apprenticeship Programs are also available to pursue.
- Youth apprentices, parents, employers, YA program coordinators, and school districts enter into a written agreement approved by the Department of Workforce Development.

² States' Career Clusters, Agriculture, Food, & Natural Resources Brochure. www.careerclusters.org. Accessed 5/21/10.

- Statewide skills are established by the industry, making the youth apprentice skill set more relevant to the state's employers.
- Youth apprentices are trained at the worksite by skilled mentors and are paid minimum wage or better for their work. Students average 10-15 hours/week.
- Youth apprentices receive a high school diploma and a Certificate of Occupational Proficiency from the Wisconsin Department of Workforce Development (DWD) at graduation.
- Youth apprentices may receive advanced standing credit and/or transcribed credit for the YA Program at a Wisconsin Technical College and/or at some four year colleges. See **Appendix F** for current details.
- Statewide skill standards focus on skills and knowledge needed by employers for entry level employment in the AFNR industry.

Students apply and are interviewed by AFNR employers for positions in the AFNR YA Program. The state approved skill standards and program guide for the Agriculture, Food and Natural Resources YA Program are used in both the classroom instruction and worksite learning. If the local school district is unable to provide the related technical classroom instruction courses, they may contract with their local technical college or employer practitioners to do so.

The skill standards are competency based. Competencies are performance-based outcome statements of occupational related skills defined by representatives of AFNR worksites throughout Wisconsin and aligned with national skill standards. The competencies in the program are aligned with learning objectives from the Center for Agricultural and Environmental Research & Training (CAERT) (www.caert.net) and the National Association of State Directors of Career and Technical Education Consortium (NASDCTEc) Standards in Agriculture, Food and Natural Resources (AFNR), (<http://www.careerclusters.org/>) for four of the AFNR Career Cluster pathways: Plant Systems, Animal Systems, Agribusiness Systems, and Environmental Systems. Competencies for Food Production can be found in the Manufacturing YA program.

The competencies will be taught at the worksite in combination with supportive, related technical classroom instruction. While the skill competencies are established statewide, program implementation and oversight occurs through local consortium committees to assure local needs are met.

Target Population

This Youth Apprenticeship occupational area focuses on having Agriculture, Food and Natural Resources (AFNR) YA students acquire basic skills pertinent to understanding and working with plants or animals or water in the first year along with the core employability and safety skills. Students will acquire basic concepts needed to maintain and support animal care; cultivate and support plant growth; or manage water quality in the environment or industry.

The second year allows AFNR students to develop skills in the specific specializations dependent on their worksite placement and area of interest. In the **Animal Pathway**, AFNR YA students choose to focus on large animals or herd/ranch animal care, while others may choose to work with small lab or companion animals. In the **Plant Pathway**, three choices exist for specialization. The Crops Unit allows AFNR YA student to work on farms growing and harvesting food, feed or fiber. AFNR YA students in the Greenhouse/Floral Unit learn to work in settings related to growing ornamental, floral and other plant types for various uses. In the Landscaping Unit, AFNR YA students explore all aspects of landscaping from design, to bidding, to creating and maintaining the landscaped area. In the **Environmental Systems Pathway**, water resources are managed for quality and public health. In the **Power, Structural & Technical Systems Pathway**, students have two options for specialization. The Agriculture Mechanics Technician Unit allows AFNR YA students to gain experience in working with agricultural machinery and equipment.

All students successfully meeting current high school graduation requirements and with a good attendance record for that year are encouraged to apply for the Agriculture, Food, & Natural Resources (AFNR) Youth Apprenticeship (YA) Program. The student must apply to the program in the year previous to program entry and be on track toward fulfilling high school graduation requirements in their school district. SEE **Appendix G** for students entering or continuing the AFNR YA Program in 2013.

All Youth Apprentices must complete the industry-wide foundational skill competencies consisting of competencies in core employability skills and safety. The Required Skill competencies may be completed concurrently with the specific technical skills.

Potential AFNR youth apprentices will be required to complete a minimum of 450 work hours with 180 hours (2 semesters) of related technical classroom instruction for a Level One (1-year) Agriculture, Food, & Natural Resources (AFNR) YA Program or a minimum of 900 work hours with 360 hours (4 semesters) of related technical classroom instruction for a Level Two (2-year) AFNR YA program.

AFNR YA students are required to perform all of the Core and Safety skills. **Level One (one year)** YA students also are required to complete the one year Basics Unit in their selected pathway. **Level Two (two year)** YA students are to choose another one year specific unit, based on their area of interest and their worksite placement.

Worksites can be chosen from any number of AFNR settings including farms, landscapers, greenhouses, florists, orchards, vet offices, farm equipment dealerships, lab animal facilities, water industries, water treatment plants, and so on PROVIDED THAT the competencies related to the TASKS and EQUIPMENT USED are allowable by DWD Child Labor Laws. See **Appendix A** for more detail or contact the Department of Workforce Development's Equal Rights Division/Labor Standards Bureau at 608-266-6860 for questions regarding child labor laws.

AFNR Units

1. Animal Pathway-

- Animal Basics Unit- REQUIRED FIRST
- Large Animal/Herd Unit
- Small Animal/Vet Assistant Unit

2. Plants Pathway-

- Plant Basics Unit- REQUIRED FIRST
- Crops Unit
- Greenhouse/Floral Unit
- Landscaping Unit

3. Environmental Systems Pathway-

- Basic Water Resources Unit- REQUIRED FIRST
- Advanced Water Resources Unit

4. Power, Structural & Technical Systems Pathway-

- Agriculture Mechanics Technician Unit
- Parts, Sales and Service Unit

AFNR Program Responsibilities

The following responsibilities are outlined for individuals involved in the Agriculture, Food, & Natural Resources (AFNR) YA Program.

Students–

1. Maintain academic skills and attendance at the high school to remain on track for high school graduation.
2. Participate in progress reviews as scheduled.
3. Exhibit maturity and responsibility to meet requirements of employment as designated by the employer.

Parents or Guardians-

4. Ensure that adequate transportation is available to and from the worksite.

5. Participate in student progress reviews as scheduled.

School District-

6. Recruit students and coordinate student enrollment in the program with the consortiums and/or employers.
7. Integrate the YA Program related technical classroom instruction and worksite training into the student's overall education program with high school graduation credit issued for each semester successfully completed.
8. Participate in student progress reviews as scheduled.

YA Program Coordinators-

9. Apply and maintain approval from the DWD to operate a YA Program.
10. Ensure a minimum of 450 hours of worksite instruction/experience plus a minimum of 180 hours of related technical classroom instruction for each one year YA program.
11. Establish and meet regularly with an advisory committee that will identify when and where tasks will be taught during the AFNR YA Program.
12. Develop and maintain a yearly commitment with participating high schools, technical colleges, and local businesses to accommodate the number of students involved in the AFNR YA Program.
13. Establish and maintain a YA student grievance procedure.
14. Provide employer mentor training.

Related Technical Classroom Instruction Faculty-

15. Qualify in the specialty areas being taught in the YA Program.

Employers and Worksite Mentors-

16. SEE **Appendix B** – Agriculture, Food, & Natural Resources (AFNR) YA Implementation Guide for Employers.
17. Participate in a mentor training session and provide on the job training of the Youth Apprentices.

Department of Workforce Development-

18. Monitor national and state regulatory agencies, such as OSHA, for changes and impact on the AFNR Youth Apprenticeship Program.

Program Guide Organization

The competencies in the program are aligned with learning objectives from the Center for Agricultural and Environmental Research & Training (CAERT) (www.caert.net) and the National Association of State Directors of Career Technical Education Consortium (NASDCTEc) Standards in Agriculture, Food and Natural Resources (AFNR), <http://www.careerclusters.org/> for four of the AFNR Career Cluster pathways: Plant Systems, Animal Systems, Agribusiness Systems, Environmental Systems and Power, Structural and Technical Systems.

The AFNR YA Program also requires that Related Technical Classroom Instruction is provided to support attainment of the knowledge necessary to master the competencies. While recommendations for specific Related Technical Classroom Instruction are detailed separately in **Appendix C**, instructional requirements will vary depending on local consortium and advisory group decisions. It is strongly advised that local consortiums work with their advisory groups to determine appropriate Related Technical Classroom Instruction based on their local needs and resources.

The Youth Apprenticeship Program curriculum is written and organized according to the Worldwide Instructional Design System (WIDS) format and includes the Agriculture, Food, & Natural Resources (AFNR) YA Skill Standards Checklist, Program Appendices and Unit Appendices for the program. Overall progress is documented on the Skill Standards Checklist which lists skill level achievement for each competency achieved. The Unit Appendices outline each skill competency with corresponding performance standards and learning objectives. The Performance Standards describe the tasks and behaviors, as applicable, that employers should look for in order to evaluate the competency. The Learning Objectives outline the recommended content to be covered in the related technical classroom instruction. SEE **Appendix D** - Wisconsin Instructional Design System (WIDS) Format and Youth Apprenticeship Program Guide Terms and **Appendix E** - Use and Distribution of the Curriculum for further details.

Evaluation

The student must successfully complete the related technical classroom instruction and demonstrate the minimum skill level required on the Agriculture, Food, & Natural Resources (AFNR) YA Skill Standards Checklist for each competency according to the applicable curriculum. Worksite mentors and/or instructors use this checklist to evaluate the learner on each of the required skills. It is the responsibility of the mentor(s) to rate the students skill level on all tasks performed at the worksite.

AFNR YA Program Completion

Upon successful completion of high school and the Level Two (2 year) AFNR YA Program requirements, the youth apprentice will receive a high school diploma and the applicable Certificate of Occupational Proficiency from the Department of Workforce

Development indicating “Agriculture, Food, & Natural Resources Youth Apprenticeship.” Youth Apprentices who successfully complete a Level One (1 year) AFNR YA Program and who are on track for graduation will be eligible for a Level One Certificate from the Department of Workforce Development. Furthermore, the YA students may;

1. Continue to work in the AFNR industry.
2. Apply to a registered apprenticeship.
3. Pursue a degree or diploma from a Wisconsin Technical College with advanced standing and/or transcribed credit.
4. Apply for admission to a four-year University of Wisconsin school with high school academic elective credit for admission.
5. Go into military service.

SEE **Appendix F** for current agreements for post-secondary credit at Wisconsin Technical Colleges and University of Wisconsin colleges.

Appendices

Appendix A - Work Contracts, Child Labor Laws, Liability & Insurance

Appendix B - Agriculture, Food and Natural Resources YA Implementation Guide for Employers

- Benefits to the Employer
- Role of the Employer
- Role of the Mentor
- Checklist for Program Participation
- Checklist for Program Operation
- Frequently Asked Questions
- Work Contracts, Child Labor Laws, Liability & Insurance (insert Appendix A)

Appendix C - Recommended Related Technical Classroom Instruction

Appendix D - Wisconsin Instructional Design System (WIDS) Format and Youth Apprenticeship
Program Guide Terms

Appendix E - Use and Distribution of the Curriculum

Appendix F - Post Secondary Credits

Appendix G - Grandfather Clause – Program Transition Guidelines

Appendix H - Agriculture, Food, & Natural Resources (AFNR) Skill Standards Checklist

Appendix I - Agriculture, Food, & Natural Resources (AFNR) YA Course Outcome Summary:
Overview and Table of Contents (COS)

Appendix J- Agriculture, Food, & Natural Resources (AFNR) Required Skills Curriculum
(Units 1-2)

Appendix K- Animal Basics Unit (Unit 3)

Appendix L- Large Animal/Herd Unit (Unit 4)

Appendix M- Small Animal/Vet Assistant Unit (Unit 5)

Appendix N- Plant Basics Unit (Unit 6)

Appendix O- Crops Unit (Unit 7)

Appendix P- Greenhouse/Floral Unit (Unit 8)

Appendix Q- Landscaping Unit (Unit 9)

Appendix R- Basic Water Resources Unit (Unit 10)

Appendix S- Advanced Water Resources Unit (Unit 11)

Appendix T- Agriculture Mechanics Technician Unit (Unit 12)