Appendix A

WORK PROCESS SCHEDULE
Precision Agricultural Technicians
O*NET-SOC CODE: 19-4012.01 RAPIDS CODE: 3095CB

This schedule is attached to and a part of these Standards for the above identified occupation.

APPRENTICESHIP APPROACH

Competency-Based

TERM OF APPRENTICESHIP

Apprentices will receive training in the work experience as listed below. The following are the work processes the apprentice will learn and be able to perform on-the-job. The term of the occupation is based on the apprentice's demonstration of the mastery of the competencies as specified and estimated to complete in approximately 1 year.

RATIO OF APPRENTICES TO JOURNEYWORKERS

The apprentice to journeyworker ratio is: 2 Apprentice(s) to 1 journeyworker.

APPRENTICE WAGE SCHEDULE

Apprentices shall be paid a progressively increasing schedule of wages based on either a percentage or a dollar amount of the current hourly journeyworker wage rate, which is:
$18.50.

Name: **Agricultural Technicians**

Period	Wage (Hourly)
1st	$16.50
6 months	$17.50
End Wage	$18.50

PROBATIONARY PERIOD

Every applicant selected for apprenticeship will serve a probationary period of 500 hours .

SELECTION PROCEDURES

The selection procedures for this occupation are listed below: The Sponsor will follow standard company procedures for filling an open position from outside the company.
Once a list of qualified applicants is received, the sponsor will interview each candidate and forward its recommendations to Human Resources.
The Human Resources Manager and the Department Manager will make the final selection based upon the occupational requirements and the needs of the company

Work Process Schedule

Precision Agricultural Technicians	
Job Description: Apply geospatial technologies, including geographic information systems (GIS) and Global Positioning System (GPS), to agricultural production or management activities, such as pest scouting, site-specific pesticide application, yield mapping, or variable-rate irrigation. May use computers to develop or analyze maps or remote sensing images to compare physical topography with data on soils, fertilizer, pests, or weather.	
RAPIDS Code: 3095CB	**O*NET-SOC Code:** 19-4012.01
Estimated Program Length: 2000 hours	
Apprenticeship Type: ☒ Competency-Based ☐ Time-Based ☐ Hybrid	

On-the-Job Learning Outline

Competency Check List	**Demonstrates Fundamentals:** Apprentice can perform the task with some coaching.	**Proficient in Task:** Apprentice performs task properly and consistently.	**Completion Date:** Date apprentice completes final demonstration of competency.
	Demonstrates Fundamentals	**Proficient in Task**	**Completion Date/Initials**
Document and maintain records of precision agriculture information.			
Collect information about soil or field attributes, yield data, or field boundaries, using field data recorders and basic geographic information systems (GIS).			
Use geospatial technology to develop soil sampling grids or identify sampling sites for testing characteristics such as nitrogen, phosphorus, or potassium content, pH, or micronutrients.			
Test, augment, and measure soil biology			

and soil health.			
Divide agricultural fields into georeferenced zones, based on soil characteristics and production potentials.			
Install, calibrate, or maintain sensors, mechanical controls, GPS-based vehicle guidance systems, or computer settings.			
Contact equipment manufacturers for technical assistance, as needed.			
Set up and maintain water systems for efficient resource use.			
Create, layer, and analyze maps showing precision agricultural data, such as crop yields, soil characteristics, input applications, terrain, drainage patterns, or field management history.			
Analyze geospatial data to determine agricultural implications of factors such as soil quality, terrain, field productivity, fertilizers, or weather conditions.			
Demonstrate the applications of geospatial technology, such as Global Positioning System (GPS), geographic information systems (GIS), automatic tractor guidance systems, variable rate chemical input applicators, surveying equipment, or computer mapping software.			
Draw or read maps, such as soil, contour, or plat maps.			
Project Management Software —Microsoft Teams: Utilize Microsoft Teams and Outlook to schedule and attend meetings, collaborate with team members, manage project tasks, and track progress.			
Spreadsheet software — Microsoft Excel: Use Microsoft Excel to analyze data, create spreadsheets, and perform calculations.			
Analyzing Data or Information — Identifying the underlying principles, reasons, or facts of information by breaking down information or data into separate parts.			

Organizing, Planning, and Prioritizing Work — Developing specific goals and plans to prioritize, organize, and accomplish your work.			
Making Decisions and Solving Problems — Analyzing information and evaluating results to choose the best solution and solve problems.			
Communicating with Supervisors, Peers, or Subordinates — Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person.			
Establishing and Maintaining Interpersonal Relationships — Developing constructive and cooperative working relationships with others.			
Communicating with People Outside the Organization — Communicating with people outside the organization, representing the organization to customers, the public, government, or other external sources.			

Related Core Subjects

Provider	
Name: Open Source Ag	
Address: 2620 Gray Hawk Way, San Miguel, CA 93451	
Email: kelly@opensource.ag	**Phone Number:** (559) 670-0352
Suggested Related Instruction Hours: 150	

Course Title	Contact Hours
Precision Agriculture Technician Skills	60
Microsoft Office Suite	15
Technology	15
Communication	20
Analysis	20
Operations	20
TOTAL	**150**

See class information attached

Precision Agricultural Technicians

O*Net Code 19-4012.00

Precision Agriculture Technician Skills (60 hours)

- Overview the purpose of precision agriculture and review sample records of precision agriculture information.
- Analyze soils reports. Compare to crop yield data and field boundaries using sample field data recorders and basic geographic information systems (GIS) information.
- Practice and apply geospatial technology to develop soil sampling grids or identify sampling sites for testing characteristics.
- Map agricultural fields into georeferenced zones based on soil characteristics and production potentials.
- Practice working with microcontrollers, sensors, software, learning and applying basic electronics principles.
- Practice simulations with wide area and Wi-Fi networks to plan and implement agriculture solutions in rural and remote locations.
- Install, calibrate, or maintain sensors, mechanical controls, GPS-based vehicle guidance systems, or computer settings.
- Practice working with sample maps and assess precision agricultural data, such as crop yields, soil characteristics, input applications, terrain, and drainage patterns.
- Prepare geospatial data samples to later assess agricultural operations.
- Identify spatial coordinates, using remote sensing and Global Positioning System (GPS) data.
- Learn about the use of and regulations for working with drones in agriculture.
- Plan and predict precision agriculture methods to reduce the negative environmental impacts of farming practices.
- Plan, sketch, and critique maps, such as soil, contour, or plat maps.
- Prepare reports in graphical or tabular form, summarizing field productivity or profitability.
- Review and assess farm management operations, including livestock care, pasture moves, garden harvesting, and crop planting.
- Test, assess, and plan to augment and measure soil biology and soil health.
- Plan and design water systems for efficient resource use.
- Prepare data summaries, reports, or analyses that include results, charts, or graphs to document research findings and results.
- Examine animals or crop specimens to determine the presence of diseases or other problems.
- Determine the germination rates of seeds planted in specified areas.
- Assess comparative soil erosion from various planting or tillage systems, such as conservation tillage with mulch or ridge till systems, no-till systems, or conventional tillage systems with or without moldboard plows.
- Examine characteristics or behavior of living organisms.
- Learn and demonstrate a foundational understanding of agronomy, soil science, and crop management.
- Accurately record data with metric conversions and prepare data for analysis.
- Assess precision agriculture information to specifically reduce the negative environmental impacts of farming practices.

Microsoft Office Suite Skills (15 hours)

We provide Office 365 licenses. Microsoft Office Suite Skills workshops take place virtually on Microsoft Teams or Zoom. There are five 3-hour sessions.

Session 1: Suite overview. Outlook for emailing and calendaring. OneDrive for cloud storage.
Session 2: Teams for meetings, project management, and communication.
Session 3: Excel for tracking data (plants, pests, productivity, weather, amendments, etc.).
Session 4: Word for documenting (proposals, applications, .pdfs, resumes, etc.).
Session 5: Excel for budgeting (bids, quotes, materials costs, etc.).

Technology Skills (15 hours)

Technology Skills workshops take place virtually on Microsoft Teams or Zoom. There are five 3-hour sessions.

Session 1: Artificial Intelligence in Agriculture Sectors (remote sensing, machine learning and predictive analytics, quality control systems, etc.).
Session 2: Farm Automation (drones, robotics, variable rate technology, etc.).
Session 3: Environmental Conservation Data Collection.
Sessions 4 and 5: Technology in Agriculture (GIS, GPS, Mapping, etc.).

Communication Skills (20 hours)

Communication Skills workshops take place virtually on Microsoft Teams or Zoom. There are six 2.5-hour sessions.

Session 1: Communicate to Succeed: Professional Skills for the Workplace.
Session 2: Write like a Pro: Tips for Communicating Effectively in Writing.
Session 3: How to Get Hired: Resumes and Cover Letters.
Session 4: Master Job Interviews: Building Confidence and Skills for Success.
Session 5: Money Matters: Managing Expenses and Smart Budgeting.
Session 6: Resume Review and Mock Interviews with Industry Mentors.

Analysis Skills (20 hours)

Analysis Skills workshops take place virtually on Microsoft Teams or Zoom. There are six 2.5-hour sessions.

Session 1: Agronomy - Soils, Fertility, and Farming Systems.
Session 2: Fauna - Pests, Beneficials, and Habitat.
Session 3: Growing - Crop Specific, Seeds, Livestock, and Gardening.
Session 4: Infrastructure - Equipment, Business, and Research.
Session 5: Environment - Energy, Water, Climate, Regulation, and Advocacy.
Session 6: Commerce - Marketing, Wholesale, and Trade.

Operations Skills (20 hours)

Operations Skills workshops take place virtually on Microsoft Teams or Zoom. There are six 2.5-hour sessions.

Session 1: Business and Legal Skills

Sessions 2: Irrigation, Crop, and Livestock Management
Session 3: Food Safety and Compliance
Sessions 4: Pest Management and Sustainable Practices
Session 5: Leadership and Workforce Development
Session 6: Selling Locally, Food Hubs, and Wholesalers