



WISCONSIN
INDIANHEAD
TECHNICAL
COLLEGE

AGRICULTURAL POWER AND EQUIPMENT TECHNICIAN

**Wisconsin Indianhead Technical College
32-070-1 Technical Diploma**

***2015*
Program Review
and
Improvement Plan**

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Agricultural Power and Equipment Technician

32-070-1 Technical Diploma

Financial Aid Eligible

Program Overview

This program consists of practical knowledge and shop management skills to help students master installation, service, assembly, adjustment, repair, and operation of various types of machinery and tractors. Students will also learn how to work with Diesel engines, hydraulic systems, transmissions, electrical systems, and mobile air conditioning systems.

Campus:

New Richmond



Special Features

As part of the Agricultural Power and Equipment Technician program, students are required to obtain a license to operate a forklift. This allows students to be one step closer in their job preparation in the agricultural industry.

In addition, students in this program will have the opportunity to participate in a State of Wisconsin (http://datcp.wi.gov/Consumer/Weights_and_Measures/License_Applications/Mobile_Air_Conditioning/Index.aspx) approved training course designed to certify operators of refrigerant recover/recycling equipment leading to a Mobile Air Conditioning license. Students must pass a final test to receive their license.

Admission Requirements

Students in this program must:

- Complete application form and submit with fee (fee waiver may apply if previously submitted)
- Complete Accuplacer entrance assessment to determine placement (waiver may apply with acceptable alternative test scores and/or postsecondary degree completion)
- Complete admissions interview with a WITC counselor (above requirements should be completed prior to interview)

Student Profile

Students in the Agricultural Power and Equipment Technician program should be able to:

- Manipulate tools and equipment skillfully
- Communicate ideas verbally
- Be organized
- Be willing to work with precise limits and standards
- Walk and move around in shop and field assignments
- Lift and carry 50 pounds
- See and hear well (normal or corrected)
- Distinguish colors

Students should discuss any limitations they may have with a Student Success Center counselor.

Preparation for Admission

Students should strive to reach a comfort level in the following courses or skills:

- Agriculture
- Welding
- Keyboarding
- Electronics
- Drafting
- Auto Mechanics
- English/Speech
- Basic Math/Algebra
- Physics
- Computers
- Power Technology
- Machine Shop
- Print Reading

Program Outcomes

Employers will expect Agricultural Power and Equipment Technician graduates to be able to:

- Repair electrical systems
- Analyze an electronic system
- Repair hydraulic systems
- Repair internal combustion engines
- Repair power trains/transmissions
- Follow industry safety standards

Collegewide outcomes and indicators will also be addressed to develop personal awareness, career effectiveness, and professionalism. See page 5 of the college catalog for a list of collegewide outcomes and indicators.

Career Outlook

Agricultural power and equipment technicians are in demand because they can handle a variety of mechanical situations. The typical positions available after graduation include:

- Equipment Mechanic
- Construction Mechanic
- Diesel Mechanic
- Lawn and Garden Equipment Mechanic

Curriculum

Number	Course Title	Credits
Occupational Specific Courses		
32070326	Engines 1 for Ag Mechanics	5
32070337	12-Volt Electrical Theory for Ag Mechanics [▲]	1
32070338	Diesel Engine Theory [▲]	1
32070339	Mobile Hydraulics Theory [▲]	1
32070341	Power Train Theory [▲]	1
32070358	Power Trains 1 [▲]	5
32070359	Mobile Hydraulics 1 [▲]	5
32070360	12-Volt Electrical 1 [▲]	4
32070361	Engines 2 for Ag Mechanics [▲]	5
32070364	Power Trains 2 [▲]	5
32070366	Mobile Hydraulics 2 [▲]	5
32070367	12-Volt Electrical 2 [▲]	5
32070368	Basic Tools	1
32070369	Mobile HVAC for Heavy Equipment	1
32442307	Welding for Mechanics	2
		47

Occupational Supportive/General Studies Courses[§]

10890100	Success Strategies 1	1
32801361	Applied Communications 1	2
32801363	Applied Communications 2 [▲]	2
32804373	Math 373	2
32804383	Math 383 [▲]	2
32809371	Applied Human Relations	2
32809305	Applied Information Resources	2
		13

PROGRAM REQUIREMENTS **60**

[▲] Requires a prerequisite and/or corequisite that must be completed with a grade point of 2.0 or better.

[§] See pages 41-43 for course descriptions.

Course Descriptions

(See pages 41-43 for General Studies course descriptions)

32070326

Engines 1 for Ag Mechanics - Credits: 5

This class will provide the learner with an in-depth look at how internal combustion engines operate. The learner will be able to identify, measure, and inspect parts of the internal combustion engine, with diesel engines used in agriculture machinery the main area of focus.

32070337

12-Volt Electrical Theory for Ag Mechanics - Credits: 1

This course is designed for the learner to understand basic 12-volt electrical circuits, wiring diagrams, starting, charging, and lighting systems. Classroom trainers will be used to apply electrical theory. Using hands-on activities, this course will help the learner to better understand basic 12-volt electrical systems. **PREREQUISITE:** 32070368 Basic Tools.

32070338

Diesel Engine Theory - Credits: 1

This course will provide the learner with a basic understanding of the diesel engine. The design and operating principles of the engine, cooling, fuel, intake, exhaust systems, and lubrication systems will be examined. **COREQUISITE:** 32070326 Engines 1.

32070339

Mobile Hydraulics Theory - Credits: 1

This course will provide a practical understanding of mobile hydraulic components. Their design, application, operation and maintenance will be studied. A hydraulic training bench will be used in the classroom. **PREREQUISITE:** 32070367 12-Volt Electrical 2.

32070341

Power Train Theory - Credits: 1

This course will provide a general overview of clutches, sliding gear, and hydrostatic drives. Design, operation, adjustment, and maintenance will be discussed. **PREREQUISITE:** 32070366 Mobile Hydraulics 2.

32070358

Power Trains 1 - Credits: 5

This course will provide an in-depth study of hydraulically operated and controlled transmissions as they are found on various types of farm tractors. You will learn transmission operation by studying manufacturers' service manuals as well as a prepared text. Lab projects will allow hands-on training. **PREREQUISITE:** 32070366 Mobile Hydraulics 2 and **COREQUISITE:** 32070341 Power Train Theory.

32070359

Mobile Hydraulics 1 - Credits: 5

This course will provide a broad, general, and practical coverage of fluid power components and their design, application, operation, and maintenance. You will learn hydraulics operation by studying manufacturers' service manuals as well as a prepared text. Lab projects will allow hands-on training. **PREREQUISITE:** 32070367 12-Volt Electrical 2 and **COREQUISITE:** 32070339 Mobile Hydraulics Theory.

32070360

12-Volt Electrical 1 - Credits: 4

This course is designed to study the construction, operation, adjustments, and repairs of electrical components used in tractors and farm implements. Classroom and lab activities will include reading and interpreting wiring diagrams, troubleshooting electrical circuits, and performing repairs on alternators, generators, starters, and regulators. Motors are also included in this course. **PREREQUISITE:** 32070368 Basic Tools and **COREQUISITE:** 32070337 12-Volt Electrical Theory for Ag Mechanics.

32070361

Engines 2 for Ag Mechanics - Credits: 5

This course provides the student with both a theoretical and practical background in the basic operating and rebuilding principles of diesel engines. The course includes practical experience in rebuilding, testing, troubleshooting, and tuning diesel engines. Additionally, the student will gain experience in the proper use of tools and equipment. If prerequisite courses have not been completed, the student must have consent of the instructor to enroll. **COREQUISITES:** 32070326 Engines 1 for Ag Mechanics and 32070338 Diesel Engine Theory.

32070364

Power Trains 2 - Credits: 5

This course provides an opportunity to work on clutches, transmission torque amplifiers, torque converters, differentials, final drives, and power take-off units. Lab time is spent on disassembly, parts identification, operation, and repair of these units. **COREQUISITES:** 32070358 Power Trains 1 and 32070341 Power Train Theory.

32070366

Mobile Hydraulics 2 - Credits: 5

This course provides an in-depth study on how the basic fluid power components are incorporated into a tractor hydraulic system. This lecture- and lab-based course includes demonstration and practice opportunities. If prerequisite courses have not been completed, student must have consent of instructor to enroll. **PREREQUISITE:** 12-Volt Electrical 2 and **COREQUISITES:** 32070359 Mobile Hydraulics 1 and 32070339 Mobile Hydraulics Theory.

32070367

12-Volt Electrical 2 - Credits: 5

This is an advanced electrical course to meet the demands of today's newer equipment. Learners will receive training on electronic service tools, pulse width modulation solenoids, can bus controllers, and terminator networks. Additional topics will include yield monitors and auto guidance systems. **PREREQUISITE:** 32070368 Basic Tools and **COREQUISITE:** 32070337 12-Volt Electrical Theory for Ag Mechanics and 32070360 12-Volt Electrical 1.

32070368

Basic Tools - Credits: 1

The purpose of this class is to introduce the learner to the basic hand and shop tools that are used by diesel engine service technicians. Precision measuring instruments will also be covered with special emphasis on reading and using micrometers, dial indicators, dial calipers, snap gauges and other shop specialty tools. Students will also be covering forklift safety, with an OSHA forklift operators certificate also being included with the successful completion of this class.

32070369

Mobile HVAC for Heavy Equipment - Credits: 1

Mobile HVAC for heavy equipment will teach the learner the basics of air conditioning systems. Air conditioning fundamentals will be learned along with proper servicing procedures and air conditioning equipment used. In-depth study of air conditioning systems from older agriculture equipment will be looked at, along with study of new auto temperature control systems. EPA environmental laws pertaining to mobile air conditioning will be examined.

32442307

Welding for Mechanics - Credits: 2

Instruction in safe setup and operation of plasma cutting (PMC), oxy-fuel cutting (OFC), SMAW (Stick), GMAW (Mig), FCAW, and/or GTAW (Tig) welding in applications related to general industry practices. Selection of appropriate welding processes with a specific emphasis on typical repair situations including metal identification will be stressed.

Gainful employment information is available at this link: <http://www.witc.edu/pgmpages/agpower/career.htm>. This information is provided as a federal requirement in an effort to help students make informed decisions related to the costs and potential employment in a chosen field.

Graduate Employment Information

(WITC Graduate Survey Responses 2012-2013; for most recent data, go to [witc.edu](http://www.witc.edu))

Number of graduates	14	Number employed	14	% employed in WITC district	71%
Number of responses	14	Percent employed	100%	Range of yearly salary	\$29,066-\$43,677
Number available for employment	14	Employed in related field	13	Average yearly salary	\$35,337

career vision

800.243.9482

witc.edu

2015-2016

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TEAM MEMBERSHIP

ACADEMIC PROGRAM REVIEW PROFILE

Program Number & Name		
Agricultural Power and Equipment Technician 32-070-1		
Program Academic Dean	Title/Location	Phone and e-mail
Nancy Cerritos	Academic Dean/New Richmond	Ext. 4270 Nancy.cerritos@witc.edu
Team Lead(s)	Title/Location	Phone and e-mail
Lee Fiedler	Ag Power Faculty member New Richmond	Ext. 4293 Lee.Fiedler@witc.edu
Team Members	Title/Location	Phone and e-mail
Scott Horsman	Ag Power Faculty member New Richmond	Ext. 4295 Scott.Horsman@witc.edu
Heath Swanson	Instructional Assistant New Richmond	Ext. 4344 Heath.Swanson@witc.edu
Sarah Noreen	Communications Instructor New Richmond	Ext. 4348 Sarah.noreen@witc.edu
Tina Nygren	ETC Technician	Ext. 4753 Tina.Nygren@witc.edu
Leah Holst	HR Manager/Frontier Ag & Turf/ New Richmond	715-246-6565 leahh@frontieragturf.com
Brian Vrtis	Counselor/New Richmond	Ext. 4250 Brian.vrtis@witc.edu
Warren Long	2 nd year Ag Power student	715-441-4790 longwe@my.witc.edu
Jacob Quist	1 st year Ag Power student	714-417-2579 quistjr@my.witc.edu
Program Information:		
Capacity (new students admitted/year):		18
Number of Faculty:	FT: 2	PT: 0
Statewide Curriculum:	Yes?	No? X
Number of Technical Studies Courses in each of the following delivery modes: (there may be duplication for courses offered in multiple modes)		
	<i>Classroom:</i>	15
	<i>Online:</i>	0
	<i>ITV/IP:</i>	0
	<i>In Person/Web Blended:</i>	6
Program Accredited by:	Not accredited	
Date of Last Accreditation		
Date of Next Accreditation		
Is a visit required? If so, when is the next visit?		
Program Licensed by:	Not Licensed	
Date of Last Licensing:		
Date of Next Licensing:		
Is a visit required? If so, when is the next visit?		
Please list other program memberships:	None	

SELF-STUDY REPORT

SELF-STUDY SUMMARY REPORT

Program Information	
Program Name: Agricultural Power and Equipment Technician	Team Chair: Lee Fiedler
Academic Dean: Nancy Cerritos	Divisional Dean: Randy Deli
Process Used to Complete the Self-Study	
Meeting format (in-person, IP, conference calls etc.)	One large in-person group meeting and then smaller meetings with Dean and Instructors.
Number of meetings	3
How was the self-study handled? (as a group, assigned to individuals to report back to group, etc.)	As a group, then instructors "tweaking" final report.
Additional comments:	
Summary of Findings	
As you completed this self study section of the program review, what areas "stand out" in your program? Please explain.	Curriculum is in really good shape. Outstanding collaboration of general studies instructors. Lack of funding or solid vehicle to stay ahead of current technology.
What has surprised you? Please explain.	How much of a need to be literate with the technology being used by industry today.
List two or three of the items identified through your self-study that you will focus on to make improvements to your program.	Program Outcome assessment and cohesive TSA process. Adding lunch-in-learns Shop ventilation
When/where in your program will you implement these improvements?	Throughout but primarily in the fourth semester.
What methods (direct or indirect) will you use to assess the success of this implementation?	Demonstrations of skills, validation by Advisory committee.
What new outcomes or benchmarks do you hope to achieve through these recommended changes?	
Additional comments:	

SELF-STUDY CATEGORY RESULTS

Program and Category	
Program: Agricultural Power and Equipment Technician 32-070-1 Category: Review of most recent improvement plan	
PLUSES (Strengths)	DELTAS (Opportunities)
<p>Assessed Critical thinking and developed powerful assignment to encourage reflection and problem solving.</p> <p>Added a number of new assessments and types of assessments; e.g., work log, time cards, team projects.</p> <p>Certified Scott to teach Success Strategies and this class has become an important factor in first semester retention.</p> <p>Added Mobile A/C and Basic Tools to curriculum.</p> <p>Changed format and instructor for Applied Info Resources and it is no longer a barrier course.</p> <p>Shop is well organized.</p>	<p>Did not complete task of assessing two program outcomes.</p> <p>Abandoned competency profile as too complex.</p> <p>Not able to form industry affiliation.</p> <p>Shop is hard to navigate when full of student projects- possible safety issues.</p>
Select one PLUS item and explain the root cause:	<p>Success Strategies has really improved, continued behavior of students to be successful by taking responsibility. Instructors have taken the time to get to know students, to change class delivery.</p>
Select one DELTA item and explain the root cause:	<p>Not able to form industry affiliation, since last program review, we have started an ag power affiliation.</p>
What items in this category MUST be addressed on our improvement plan?	
What items in this category MIGHT be addressed on the improvement plan?	<p>Shop is hard to navigate.</p>
What items in this category may be considered a BEST PRACTICE OR INNOVATION?	<p>Core instructors teaching success strategies.</p>

Team Rating			
Please indicate by an (X) the team rating of your program on this category.			
<i>All areas need improvement</i>	<i>Some areas meet expectations, but most areas need improvement</i>	<i>All areas meet expectations —few areas need improvement</i>	<i><u>Exemplary</u>—all areas exceed expectations—use as a model for other programs</i>
			X
Additional Comments: (optional)			

SELF-STUDY CATEGORY RESULTS

Program and Category			
Program: Agricultural Power and Equipment Technician 32-070-1 Category: WITC Program Statistics			
PLUSES (Strengths)		DELTAS (Opportunities)	
Number of graduates increased this cycle from a low of 6 in 2010. Between 88-100% employed in last four years. Graduate satisfaction remains high.		Headcount is down due to lack of space in shop when all are working on projects- we lowered the program capacity number for safety sake.	
Select one PLUS item and explain the root cause:	Between 88-100% employed in last four years.		
Select one DELTA item and explain the root cause:	Headcount is down due to lack of space in shop when all are working on projects- we lowered the program capacity number for safety sake.		
What items in this category MUST be addressed on our improvement plan?	Headcount is down due to lack of space in shop when all are working on projects- we lowered the program capacity number for safety sake.		
What items in this category MIGHT be addressed on the improvement plan?			
What items in this category may be considered a BEST PRACTICE OR INNOVATION?			
Team Rating			
Please indicate by an (X) the team rating of your program on this category.			
<i>All areas need improvement</i>	<i>Some areas meet expectations, but most areas need improvement</i>	<i>All areas meet expectations —few areas need improvement</i>	<i>Exemplary—all areas exceed expectations—use as a model for other programs</i>
		X	
Additional Comments: (optional)			

SELF-STUDY CATEGORY RESULTS

Program and Category			
Program: Agricultural Power and Equipment Technician 32-070-1 Category: Curriculum			
PLUSES (Strengths)		DELTAS (Opportunities)	
Curriculum is updated and current. New program outcomes are in place. New courses- Basic Tools and Mobile A/C are in place and effective. Appropriate course pre-reqs are in place. Curriculum checklist is up-to-date. Sequencing is good for student success. Applied info Resources is updated and more strategically scheduled for student success.		No plan for maintaining curriculum. No room in curriculum for advanced technology (sometimes requested by employers or advisory committee members). Update webpage: Could use more student and employer testimonials.	
Select one PLUS item and explain the root cause:	New courses- Basic Tools and Mobile A/C are in place and effective. To help students be more prepared for education and success.		
Select one DELTA item and explain the root cause:	Update webpage: Could use more student and employer testimonials.		
What items in this category MUST be addressed on our improvement plan?	Update webpage: Could use more student and employer testimonials.		
What items in this category MIGHT be addressed on the improvement plan?			
What items in this category may be considered a BEST PRACTICE OR INNOVATION?	Applied info Resources is updated and more strategically scheduled for student success.		
Team Rating			
Please indicate by an (X) the team rating of your program on this category.			
<i>All areas need improvement</i>	<i>Some areas meet expectations, but most areas need improvement</i>	<i>All areas meet expectations —few areas need improvement</i>	<i>Exemplary—all areas exceed expectations—use as a model for other programs</i>
			X

SELF-STUDY CATEGORY RESULTS

Program and Category	
Program: Agricultural Power and Equipment Technician 32-070-1 Category: Assessment of Student Learning	
PLUSES (Strengths)	DELTAS (Opportunities)
<p>Engines, electrical systems, hydraulic systems and transmissions classes are assessed by work book assignments total points, chapter tests total points, class projects are assessed by peer rubric.</p> <p>Laboratory projects are assessed by running on dynamometer to simulate real world conditions to check for oil leaks, oil pressure, temperature and other possible terminal issues.</p> <p>Learner Engine Assessment Portfolio used by learners to measure and assesses their engine projects.</p> <p>Engine Assessment Portfolio is used by instructors to assess learners current growth.</p> <p>Hydraulic projects are assessed by using hydraulic flow rater.</p>	<p>Need to complete work on TSA phase 2 in order to have outcome assessments for all program outcomes.</p> <p>Only have assessed Critical Thinking and Math for Collegewide outcomes.</p>
Select one PLUS item and explain the root cause:	Engine Assessment Portfolio is used by instructors to assess learners current growth. Engine packet is very complete and detailed, thus is a good tool to use for assessment.
Select one DELTA item and explain the root cause:	Need to complete work on TSA phase 2 in order to have outcome assessments for all program outcomes. State and local mandates.
What items in this category MUST be addressed on our improvement plan?	Need to complete work on TSA phase 2 in order to have outcome assessments for all program outcomes.
What items in this category MIGHT be addressed on the improvement plan?	
What items in this category may be considered a BEST PRACTICE OR INNOVATION?	

Team Rating			
Please indicate by an (X) the team rating of your program on this category.			
<i>All areas need improvement</i>	<i>Some areas meet expectations, but most areas need improvement</i>	<i>All areas meet expectations —few areas need improvement</i>	<i><u>Exemplary</u>—all areas exceed expectations—use as a model for other programs</i>
		X	
Additional Comments: (optional)			

SELF-STUDY CATEGORY RESULTS

Program and Category	
Program: Agricultural Power and Equipment Technician 32-070-1 Category: Advisory Committees	
PLUSES (Strengths)	DELTAS (Opportunities)
<p>Membership has been updated to include more employers.</p> <p>Committee is made up of 3 employees and 4 employers. This seems to be a good mixture.</p> <p>Committee is active, offers good suggestions and is interested in the program. Offer suggestions and criticisms freely.</p> <p>General studies instructors are always invited.</p> <p>Counselors are always invited.</p> <p>A first and second year student, at least, are always present at meetings.</p> <p>The advisory committee meets once a year. Generally a quorum is attained- minutes are documented and turned in as required.</p>	<p>No farmer employers on advisory committee.</p> <p>Advisory committee is not consulted about the agenda prior to the meeting.</p>
Select one PLUS item and explain the root cause:	<p>Committee is active, offers good suggestions and is interested in the program. Offer suggestions and criticisms freely. The group is diverse and a good knowledge base.</p>
Select one DELTA item and explain the root cause:	<p>No farmer employers on advisory committee. To received input from individual employers rather than only corporate.</p>
What items in this category MUST be addressed on our improvement plan?	
What items in this category MIGHT be addressed on the improvement plan?	
What items in this category may be considered a BEST PRACTICE OR INNOVATION?	

Team Rating			
Please indicate by an (X) the team rating of your program on this category.			
<i>All areas need improvement</i>	<i>Some areas meet expectations, but most areas need improvement</i>	<i>All areas meet expectations —few areas need improvement</i>	<i><u>Exemplary</u>—all areas exceed expectations—use as a model for other programs</i>
			X
Additional Comments: (optional)			
Discuss having more than one advisory committee meeting annually.			

SELF-STUDY CATEGORY RESULTS

Program and Category	
Program: Agricultural Power and Equipment Technician 32-070-1 Category: Equipment and Facilities	
PLUSES (Strengths)	DELTAS (Opportunities)
<p>Remodeled shop is larger, better organized and easier to clean.</p> <p>New paint, lights, windows, and level floor have made a large difference in comfort and safety.</p> <p>Layout of shop is much improved.</p>	<p>New shop does not have adequate ventilation or placement of ventilation.</p> <p>Ventilation in the restrooms needs to be improved.</p> <p>Because of renovating rather than building, large posts hamper moving of tractors.</p> <p>Difficult to maintain eye- sight on all students (unsafe).</p> <p>Not enough engine stands or splitting stands, nor any place to store them.</p> <p>Need more diagnostic equipment or another tractor to test on (other than McCormick).</p> <p>GPS technology is needed.</p> <p>Hydraulic test equipment needs more organization.</p> <p>Not enough computers (8 PCs for 38 students).</p>
Select one PLUS item and explain the root cause:	New paint, lights, windows, and level floor have made a large difference in comfort and safety.
Select one DELTA item and explain the root cause:	Ventilation is inadequate, original HVAC plan was altered.
What items in this category MUST be addressed on our improvement plan?	Ventilation is inadequate, original HVAC plan was altered. Not enough computers (8 PCs for 38 students).
What items in this category MIGHT be addressed on the improvement plan?	
What items in this category may be considered a BEST PRACTICE OR INNOVATION?	

Team Rating			
Please indicate by an (X) the team rating of your program on this category.			
<i>All areas need improvement</i>	<i>Some areas meet expectations, but most areas need improvement</i>	<i>All areas meet expectations —few areas need improvement</i>	<i><u>Exemplary</u>—all areas exceed expectations—use as a model for other programs</i>
	X		
Additional Comments: (optional)			

SELF-STUDY CATEGORY RESULTS

Program and Category			
Program: Agricultural Power and Equipment Technician 32-070-1 Category: Staff Development and Program Innovation			
PLUSES (Strengths)		DELTAS (Opportunities)	
Faculty do most staff development on their own time and by reading, professional journals, talking to dealers, etc. Faculty set shop as much like professional work experience as possible, including time cards and reports on work being done. Have started club since last program review and students have taken a number of exceptional field trips.		Faculty do most professional development on their own time. Seminars, workshops, etc are generally during the school year and instructors are unable to attend. Professional development budget inadequate for needs. Do not have time in curriculum to go much beyond “basics” outside of introduction and exposure	
Select one PLUS item and explain the root cause:	Faculty set shop as much like professional work experience as possible, including time cards and reports on work being done.		
Select one DELTA item and explain the root cause:	Professional development budget inadequate for needs.		
What items in this category MUST be addressed on our improvement plan?			
What items in this category MIGHT be addressed on the improvement plan?	Purchase electronic time clocks for time cards.		
What items in this category may be considered a BEST PRACTICE OR INNOVATION?	Faculty set shop as much like professional work experience as possible, including time cards and reports on work being done.		
Team Rating			
Please indicate by an (X) the team rating of your program on this category.			
<i>All areas need improvement</i>	<i>Some areas meet expectations, but most areas need improvement</i>	<i>All areas meet expectations —few areas need improvement</i>	<i>Exemplary—all areas exceed expectations—use as a model for other programs</i>
		X	
Additional Comments: (optional)			

SELF-STUDY CATEGORY RESULTS

Program and Category	
Program: Agricultural Power and Equipment Technician 32-070-1 Category: Collaboration across the college	
PLUSES (Strengths)	DELTAS (Opportunities)
<p>General Studies:</p> <p>Students are required to take a number of Gen Ed classes.</p> <p>General Ed and core teachers regularly meet and discuss student progress and issues.</p> <p>General studies instructors are responsive to student needs and attempt to incorporate core topics into general studies courses.</p> <p>Instructors track progress in General Studies courses; if students are not performing satisfactorily, their shop time is affected.</p> <p>Student Services:</p> <p>SS staff are always willing to help with any tasks.</p> <p>Faculty visit with SS staff once a year to update on the program as well as discuss traits of successful students.</p> <p>ETC:</p> <p>Because we have an ETC technician that teaches the technology class to the students now, they feel comfortable going to the ETC for help.</p> <p>Continuing Education:</p> <p>Have successfully partnered with Con Ed For Forklift and Mobile A/C classes.</p>	<p>General Studies:</p> <p>Ag Mechanic students take their general ed classes with the rest of their class. Taking the general ed. classes with a mixture of students from other disciplines might help the Ag. Mechanic students become more well-rounded individuals. Experiencing the viewpoint of students from other disciplines would give the Ag Mechanics the opportunity to look at things from another perspective and thus help them to grow intellectually.</p> <p>Ag Mechanic Students do not always do well in the General Studies courses; in some instances do not take them, negatively affecting graduation rates.</p> <p>Student Services:</p> <p>Being in the other building, Student Service Employees rarely visit the program.</p> <p>Student Success Center is in this building and is not being staffed in the summer term.</p> <p>ETC:</p> <p>Opportunity to provide lunch and learn training sessions.</p> <p>Continuing Education:</p> <p>Not a lot of opportunities for partnerships.</p>
<p>Select one PLUS item and explain the root cause:</p>	<p>SS staff are always willing to help with any tasks.</p>
<p>Select one DELTA item and explain the root cause:</p>	<p>Being in a different building other than the main campus, is a barrier for the students.</p>

What items in this category MUST be addressed on our improvement plan?			
What items in this category MIGHT be addressed on the improvement plan?	Opportunity to provide lunch and learn training sessions.		
What items in this category may be considered a BEST PRACTICE OR INNOVATION?			
Team Rating			
Please indicate by an (X) the team rating of your program on this category.			
<i>All areas need improvement</i>	<i>Some areas meet expectations, but most areas need improvement</i>	<i>All areas meet expectations —few areas need improvement</i>	<i><u>Exemplary</u>—all areas exceed expectations—use as a model for other programs</i>
		X	
Additional Comments: (optional)			

WITC QRP AND PERKINS DATA REVIEW

QRP SCORECARD

32-070-1 – Agricultural Power and Equipment Technician

WTCS State Indicator	2014				
	Total In Cohort	Total Achieved	Actual	WITC Threshold	WITC Target
C200 Course Completion	33	31	93.9%	52.8%	100%
C400 Special Populations Course Completion	21	19	90.4%	38.5%	100%
C600 Minority Course Completion	1	0	0%	NA	100%
F200 Second Year Retention	18	11	61.1%	27.9%	96.4%
F400 Third Year Retention	26	17	65.3%	30.9%	81.3%
F600 Third Year Graduation	26	15	57.6%	16.1%	78.6%
F800 Fifth Year Graduation	27	19	70.3%	10.2%	65.8%
I300 Job Placement - All Employment	13	13	100%	62.9%	100%
I600 Job Placement - Related Employment	13	12	92.3%	13.0%	100%
J500 Non-Traditional Gender	33	2	6.0%	NA	43.8%
J650 NTO Graduation	11	1	9.0%	NA	38.9%

WTCS State Indicator	2013			2012		
	Total in Cohort	Total Achieved	Actual	Total in Cohort	Total Achieved	Actual
C200 Course Completion	38	30	78.9%	40	37	92.5%
C400 Special Populations Course Completion	30	23	76.6%	21	21	100%
C600 Minority Course Completion	0	0	0%	0	0	0%
F200 Second Year Retention	26	21	80.7%	15	10	66.6%
F400 Third Year Retention	15	9	60%	27	20	74.0%
F600 Third Year Graduation	15	9	60%	27	19	70.3%
F800 Fifth Year Graduation	18	9	50%	11	9	81.8%
I300 Job Placement - All Employment	14	14	100%	16	16	100%
I600 Job Placement - Related Employment	14	13	92.8%	16	14	87.5%
J500 Non-Traditional Gender	38	2	5.2%	0	0	0%
J650 NTO Graduation	13	0	0%	0	0	0%

Perkins Program Data

32-070-1 Agricultural Power & Equipment Technician																						
	1P1			1P2			2P1			3P1			2P1+3P1	4P1			5P1			5P2		
	# of PS	# of S/N	82.22%	# of PS	# of S/N	83.71%	# of PS	# of S/N	55.00%	# of PS	# of S/N	11.28%	66.28%	# of PS	# of S/N	90.41%	# of PS	# of S/N	8.91%	# of PS	# of S/N	7.44%
2015	18	15	83.33%	18	12	66.67%	18	13	72.22%	18	1	5.56%	77.78%	13	13	100.00%	42	2	4.76%	19	1	5.26%
2014	20	16	80.00%	20	15	75.00%	20	13	65.00%	20	0	0.00%	65.00%	9	9	100.00%	34	3	8.82%	11	1	9.09%
2013	14	11	78.57%	14	9	64.29%	14	9	64.29%	14	0	0.00%	64.29%	18	18	100.00%	0	0	0.00%	0	0	0.00%
2012	25	19	76.00%	24	19	79.17%	25	18	72.00%	25	2	8.00%	80.00%	9	9	100.00%	0	0	0.00%	0	0	0.00%
2011	14	12	85.71%	13	11	84.62%	14	9	64.29%	14	2	14.29%	78.58%	9	6	66.67%	0	0	0.00%	0	0	0.00%
5 Year Average			80.07%			75.77%			66.40%			5.57%	71.97%			91.67%			2.21%			2.27%

Terminology	Definition
FAUPL or NPL or PL	Percentage benchmark the program must meet or exceed.
Total N	The number of students in the cohort of the specified year listed.
# of PS	# of participants served (base # of students in the cohort)
# of S/N	# of students in the cohort that completed (# of students out of the base # in the cohort that successfully completed the program)
1P1	Program technical course completion percentage.
1P2	Program general studies course completion percentage.
2P1	Program degree attainment percentage.
3P1	Program retention/transfer percentage.
2P1 + 3P1	Degree attainment + retention percentage.
4P1	Job placement percentage reported at six-month graduate survey.

WTCS QRP SCORECARD ANALYSIS WORKSHEET

Program:	Agricultural Power and Equipment Technician 32-070-1			
Target Analysis				
Indicator	Actual	Threshold	Target	Best Practice or Innovation – Describe and include how this has contributed to your high actual results for this indicator.
I300- Job Placement all employment	100%	62.9%	100%	Although this is a technical diploma and internships aren't officially part of the program, the instructors spend a great deal of time and effort and find summer employment in the field for many of the students. This very frequently leads to permanent employment.
C200 Course completion	93.9%	52.8%	100%	Although we did not meet target, we are very close. The instructors work closely with the general studies instructors as well as their own courses and staying on top of assignments is strongly encouraged.
Threshold Analysis				
Indicator	Actual	Threshold	Target	Potential Action – Describe what action(s) could possibly be taken to improve this indicator and why it might work.
F200 Second year retention	61.1%	27.9%	96.4%	Although we exceeded threshold, we are far from target. We lose some students to employment after the first year, as well as other personal reasons.
J500 Non-traditional gender	6.00%	NA	43.8%	Although technically we did not have a threshold to not meet, we would like to encourage more women in the field. The students we have had have for the most part, been exceptional students. The heavy lifting and oil and diesel odor can be off-putting to some potential female students, but there are many related jobs available to a woman.

WTCS PERKINS SCORECARD ANALYSIS WORKSHEET

Program:	Agricultural Power and Equipment Technician 32-070-1			
Indicator	Actual	Benchmark	Not met (X)	What practices might be causing this performance and what potential actions could be taken to improve this score?
1P1 Technical Course Completion	80.00%	75.18%		We work hard to achieve this statistic, trying to adjust to different learning styles and personal situations to create an atmosphere conducive to success.
1P2 Academic (General Studies) Course Completion	75.00 %	68.4%		We work very hard on this one, emphasizing the importance of the general studies courses. The instructors keep close track of how their students are performing in all their courses.
2P1 Degree Attainment (Completion)	65.00%	57.50%		We would like to see this higher, even though we met the benchmark. Many are only a course or two short of graduation.
3P1 Retention/ Transfer	0%	16.78%	X	We had no one continuing for a third year or transferring to a different location.
2P1+3P1	65%	74.28%	X	The number of students who didn't graduate did not go on to further education either here or at some other location.
4P1 Placement (6-month survey)	100%	92. %		Many students have employment lined up or already started even prior to graduation.

FUTURE TRENDS AND EXTERNAL FACTORS

Program	Agricultural Power and Equipment Technician 32-070-1	
Future Trends		
•	Precision farming	
•	Increased use of technology on equipment.	
•	Larger farms, less small family farms	
•	Organic farming	
Employment Trends		
Local	Stable	
•		
•		
State		
•		
•		
External Factors		
•	Expense of new equipment leads to more repair of existing equipment.	
•	Consolidation of smaller farms into larger farms and more mechanization.	
•	Increased need for technicians and location repairs.	

IMPROVEMENT PLAN

ACADEMIC PROGRAM IMPROVEMENT PLAN

PROGRAM: Agricultural Power and Equipment Technician 32-070-1					
Defined Outcome: Improve second year retention from 61% to 75%	QRP Indicator #	Perkins Indicator #	Responsibility	Timeline	Resources
	F200				
Action Plan/Action Items:			Instructors, Dean, Advisory Committee	Fall 2016-Spring 2017	
<ul style="list-style-type: none"> - Work with employers and advisory committee members to encourage students to finish program before taking employment. - Consider adding embedded technical diploma/s to capture success of those who do job out. - Do group advising/e registration for second year before end of second semester. - Do group advising/registration with both years in November so all are registered early. 					
<p>Update: (A mid-year and year-end update will be required each year during implementation.)</p> <p>June 2016: We explored the idea of an embedded technical diploma but the advisory committee strongly felt the entire program was necessary for an entry level employee. Group advising was initiated for registration of continuing students.</p> <p>January 2017: According to program data, we have improved our fall to spring retention from 61% to 75%.</p> <p>June 2017: No new data</p> <p>January 2018: the latest program data indicates our fall to spring retention is 94%.</p>					

ACADEMIC PROGRAM IMPROVEMENT PLAN

PROGRAM: Agricultural Power and Equipment Technician 32-070-1					
Defined Outcome: Improve Degree attainment numbers from 65% to 80%	QRP Indicator #	Perkins Indicator #	Responsibility	Timeline	Resources
		2P1			
Action Plan/Action Items:			Instructors, Dean	Fall 2016-Spring 2018	
<ul style="list-style-type: none"> - Apply intrusive advising practices beginning in first semester of program. - Continue with Success strategies in first semester of program - Continue Applied Info resources with Tina in 3 one hour classes rather than one or two classes. - Move Welding for Mechanics to fourth semester when students are more mature. - Involve more students in club and plan fun activities as well as fund-raising activities. 					
<p>Update: (A mid-year and year-end update will be required each year during implementation.)</p> <p>June 2016: All of the above action items have been implemented but it is too early to determine if we have been successful or not but the numbers. We will continue with all action items.</p> <p>January 2017: Our degree attainment went from 65% to 100% with the latest data.</p> <p>June 2017: This item completed.</p> <p>January 2018- All items completed- most current data has degree attainment at 85%.</p>					

ACADEMIC PROGRAM IMPROVEMENT PLAN

PROGRAM: Agricultural Power and Equipment Technician 32-070-1					
Defined Outcome: Improve enrollment numbers by 10%	QRP Indicator #	Perkins Indicator #	Responsibility	Timeline	Resources
<p>Action Plan/Action Items: (program typically loses 2-3 students in first few weeks)</p> <ul style="list-style-type: none"> - Consider raising program capacity to compensate for last minute withdrawals and no-shows. - Investigate storage options for large and off cycle equipment to provide more space in lab for student projects. - Maintain teaching assistant for ALL of shop hours for safety rule enforcement. - Offer incentives for “buddy” enrollment 			Instructors/ Dean/facilities manager	Fall 2015- Spring 2018	Planning Process, Strategic Planning Process
<p>Update: (A mid-year and year-end update will be required each year during implementation.)</p> <p>June 2016: We are considering raising program capacity, but have not acted on it. We are investigating storage options through the planning process, but that may be a long range plan rather than a short range project. We increased teaching assistant hours this year to full time for ag power. This may be dependent on enrollment numbers in Power Sports (formerly MMOPPT).</p> <p>January 2017: Enrollment numbers remained consistent around 20- and we retain most of them, so while enrollment numbers have not increased; retention and completion numbers have, thus increasing our overall program performance.</p> <p>June 2017: Enrollment looks good for fall but this is an area that will be continually worked for improvement.</p> <p>January 2018: Our retention and completion numbers are good- enrollment remains on a decline.</p>					

ACADEMIC PROGRAM IMPROVEMENT PLAN

PROGRAM: Agricultural Power and Equipment Technician 32-070-1					
Defined Outcome: Current and relevant web/catalog pages	QRP Indicator #	Perkins Indicator #	Responsibility	Timeline	Resources
Action Plan/Action Items: <ul style="list-style-type: none"> - Make sure student profile is accurate - Update pictures - Include student testimonials - Include employer testimonials - Consider adding some sort of animation 			Instructors, Deans	Fall 2015-Spring 2018	Web Manager, Keith Hasart
<p>Update: (A mid-year and year-end update will be required each year during implementation.)</p> <p>June 2016: We reviewed the catalog pages and made updates. We are waiting on the web page for the new web design project.</p> <p>January 2017: Still waiting for the new web site to update web page.</p> <p>June 2017: worked with Marketing to record video and pictures for the new web site.</p> <p>January 2018: New website functional. New flyers have been created and placed at dealerships and relevant businesses and locations.</p>					

ACADEMIC PROGRAM IMPROVEMENT PLAN

PROGRAM: Agricultural Power and Equipment Technician 32-070-1					
Defined Outcome: Implement TSA	QRP Indicator #	Perkins Indicator #	Responsibility	Timeline	Resources
Action Plan/Action Items: <ul style="list-style-type: none"> - Plan assessments for each program outcome - Create checklist for each indicator - Introduce scoring guide to students - Assess students - Turn in results to appropriate person - Report to state 			Instructors, Dean	Fall 2015-Spring 2017	Curriculum Office
<p>Update: (A mid-year and year-end update will be required each year during implementation.)</p> <p>June 2016: All of the assessments are matched for the outcomes in the first year of the program, and as the TSA follows the students into the second year, those assessments will be matched to outcomes a well. Next spring is the first reporting year.</p> <p>January 17: We are on schedule for assessing students with the TSA and reporting results to the state this spring.</p> <p>June 2017: All students in the second year were assessed and results were sent to the curriculum office for reporting to the state.</p> <p>January 2018: Have our first reported results- 16 met, 0 non-met.</p>					

ACADEMIC PROGRAM IMPROVEMENT PLAN

PROGRAM: Agricultural Power and Equipment Technician 32-070-1					
Defined Outcome: Provide adequate computers for use in program	QRP Indicator #	Perkins Indicator #	Responsibility	Timeline	Resources
Action Plan/Action Items: <ul style="list-style-type: none"> - Currently have 8 PCs for 38 students- determine optimal number for effective learning. - Explore how to store and use the optimal number of computers. - Request through planning process 			Instructors, Dean	Fall 2015- Fall 2017	Planning Process
<p>Update: (A mid-year and year-end update will be required each year during implementation.)</p> <p>June 2016: Did not address this item yet. We will look at it prior to fall 2016 planning.</p> <p>January 2017: This is deferred to next fall- we had other priorities this planning cycle.</p> <p>June 2017: We will request an updated computer lab through the planning process in the fall of 2017.</p> <p>January 2018: Once again other priorities took precedence - needed to replace parts washers. Deferred again.</p>					