

Academic Program Review Report

2010

Heavy Equipment Technology Heavy Equipment Service Engineering Technology

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Section 1: Program Overview

An overview of the program that addresses broadly, the areas of the program included in the Administrative Program Review document (see page xx). This section should acquaint the reader with the program: mission, history, impact (on the University, state, and nation), expectations, plans for improvement, and any other items that would help the reader fully appreciate the remainder of the report.

A. PROGRAM GOALS.

1) State the goals of the program.

a) Heavy Equipment Program Goals and Outcomes

GOALS:

Program goals for the Graduate:

A.A.S. Heavy Equipment Technology

1. Alumni will communicate technically oriented information, in oral and written forms, with accuracy and effectiveness.
2. Graduates will excel in the occupational functions required of a Heavy Equipment Technician.
3. Alumni will demonstrate employability traits and ethics which will result in salary increases and employment advancements.
4. Graduates will engage in life-long learning.

B.S. Heavy Equipment Service Engineering Technology

1. Alumni will communicate technically oriented information, in oral and written forms, with accuracy and effectiveness.
2. Graduates will excel in the occupational functions within the engineering and/or management realms of the heavy equipment industry.
3. Alumni will demonstrate employability traits and ethics which will result in salary increases and employment advancements.
4. Graduates will engage in life-long learning.

Faculty and staff goals for the Program:

The faculty and staff seek to:

1. Increase student satisfaction and retention rates.
 - a. Implement improvements based on input from the advisory committee related to student lab experience.
 - b. Reorganize the curriculum to enhance student learning prior to completing the A.A.S. Internship (HEQT193).
 - c. Perform a comprehensive review of the curriculum.

2. Increase enrollment of FTIAC and transfer students.
 - a. Increase marketing and recruiting activities in Great Lakes Scholarship states.
 - b. Develop articulation agreements with community colleges in Great Lakes Scholarship states.
 - c. Attain articulation agreements with all secondary Heavy Equipment programs in Michigan.
3. Maximize program efficiency.
 - a. Review and rework the master schedule to maximize the use of the facility.
 - b. Review the curriculum for the opportunity to maximize course offerings by possibly:
 - i. Blending the content of some courses into others.
 - ii. Division of some courses into two separate courses.
 - iii. Substitution of more appropriate courses for lesser courses.
 - iv. Ensure that NATEF instructional hour requirements are being met.
4. Enhance donations to the program.
 - a. Donations of vehicles, components, and parts.
 - b. Donations of equipment and tools.
 - c. Contributions to scholarship funds for Heavy Equipment students.
 - d. Contributions of marketing opportunities by industry and industry publications.
5. Increase donations to other Institutions.
 - a. Identify items no longer needed by the program.
 - b. Develop relationships with post-secondary programs seeking donations.
 - c. Develop relationships with secondary programs seeking donations.
6. Contribute to the advancement of the university.
 - a. Support the mission of the university.

- b. Contribute to the realization of the College of Engineering technology goals.
- c. Advance the mission of the School of Automotive and Heavy Equipment.

OUTCOMES:

A.A.S. Heavy Equipment Technology

- 1. Students will be able to communicate effectively.
- 2. Students will have the ability to diagnose symptoms and malfunctions in primary heavy equipment systems as appropriate for their course of study.
- 3. Students will have the ability to locate, comprehend and apply OEM service information, diagnostic procedures, and service routines.
- 4. Students will know how to use specialized service and diagnostic equipment.
- 5. Students will have the ability to function in accordance with established safety practices.

B.S. Heavy Equipment Service Engineering Technology

- 1. Students will be able to communicate effectively.
- 2. Students will be able to apply creativity in the design of systems, components or processes appropriate to program educational objectives.
- 3. Students will have the ability to diagnose symptoms and malfunctions in primary heavy equipment systems as appropriate for their course of study.
- 4. Students will function effectively in a team environment.
- 5. Students will understand the importance of life-long learning and be able to identify sources of learning opportunities.

2) Goals Establishment

Explain how and by whom the goals were established.

ESTABLISHMENT OF PROGRAM GOALS AND OUTCOMES:

INPUT:

Input was elicited from program constituents as to what traits would the ideal employee possess at each of the following two points, for each of the two degrees:

1. Entry level, new employee.
2. Employee with 3 to 5 years of experience.

The program constituent groups are:

1. Advisory Committee
2. Alumni
3. Employers
4. Faculty
5. Students

The traits associated with the recent hire were used to create the program outcomes. Characteristics identified as being desirable of the seasoned employee were used to formulate the program goals.

FORMULATION:

Once input was received, the Faculty identified four traits which were mostly shared by all the constituent groups. These four traits were then presented to the constituents for approval. All five groups were satisfied, with the acknowledgement that these are part of a continuous improvement plan and may be altered in the future. The faculty committee was then responsible for authoring acceptable outcomes and goals to be used to guide the curriculum. The outcomes and goals were reviewed and approved by the College of Engineering Technology assessment mentor.

3) Preparing Students

How do the goals apply to preparing students for careers in and meeting employer needs in the community/region/marketplace?

GOALS:

PURPOSE:

The goals, specifying the abilities of the seasoned employee, provide direction for the development of the program outcomes.

OUTCOMES:

PURPOSE:

Program outcomes are developed with input from employers and advisory committee members. This input ensures that students fulfilling the outcomes will be equipped to meet the needs of future employers. Program outcomes identify the knowledge and abilities that the student will possess at the time of graduation. Utilizing these outcomes as guidance for the development of course and unit outcomes, further ensures the readiness of our graduates to satisfy the requirements of the industry.

4) Evolution of Goals

Have the goals changed since the last program review? If so, why and how? If not, why not?

Yes, the program goals have been expanded.

GOALS: 2004

The goals stated in the 2004 report were concerned with the development of the faculty, facility, and equipment. Absent, were goals addressing student learning.

GOALS: 2010

As a result of the preparation for the HLC accreditation visit, the Heavy Equipment faculty have identified goals and outcomes addressing student learning throughout both the Associate and Baccalaureate programs. As we progress through the continuous improvement process, information indicating student will guide the faculty in developing goals for the enhancement of the program.

5) Relevance of the Program to the University

Describe the relationship of the program goals to the University's mission, and the departmental, college and divisional strategic plans.

FSU MISSION STATEMENT:

Ferris State University prepares students for successful careers, responsible citizenship, and lifelong learning. Through its many partnerships and its career-oriented, broad-based education, Ferris serves our rapidly changing global economy and society.

HEAVY EQUIPMENT CONTRIBUTION

The Heavy Equipment program prepares students for success by maintaining a career oriented focus. Hiring practices, faculty development, facility utilization, and curriculum structure are all driven by industry standards. With placement rates nearing one hundred percent, our program is held in extremely high regard across industry. From trucking and shipping to construction, agriculture, power generation, and forestry, businesses nationwide have benefitted from the preparation FSU graduates received.

Our program goals and curricular structure ensure our students receive extensive instruction in current technology. Emphasis is continually placed on the importance of keeping pace with technological advances and the importance of seeking and participating in manufacturer based, instructional opportunities.

Expanding upon the mission statement, the Ferris vision statement identifies our desire to be a recognized leader in integrative education. When asked to describe a setting conducive to integrative learning, author and integrative education leader Barbara Clark states, "The environment is much like a laboratory or workshop: rich in materials with simultaneous access to many learning activities. The emphasis is on experimentation and involvement." This has been the approach of the Heavy Equipment program for over fifty years, and is one of the fundamental pedagogies on which Ferris State university was founded.

B. PROGRAM VISIBILITY AND DISTINCTIVENESS

1) Program Features

Describe any unique features or components of the program.

NATEF CERTIFICATION

The National Automotive Technicians Education Foundation (NATEF) is the branch of the National Institute for Automotive Service Excellence (ASE) responsible for maintaining standards for technician education and for the certification of Automotive and Medium/Heavy Duty Truck programs. NATEF accredits both secondary and post secondary-programs. Secondary programs are required to be certified in at least six areas of expertise, or to have an articulation agreement in place with a post-secondary program which is certified in all eight areas. By maintain our NATEF certification; we serve as the articulating institution for most of the secondary programs in Michigan. This service, provides incredible visibility to these future students.

AED CERTIFICATION

"AED is an international trade association representing companies involved in the distribution, rental and support of equipment used in construction, mining, forestry, power generation, agriculture and industrial applications.

Our 700 distributor member companies account for over \$15 billion of annual sales of construction equipment and related supplies and services in the U.S. and Canada. Our average distributor member achieves over \$46 million per year in revenues, and employs 90 people.” *Aednet.org, 2010*

One important means of support that AED provides their members is the accreditation of Heavy Equipment Technology, educational programs. Currently there are twenty-two programs in sixteen states accredited by AED. Ferris State University has the only accredited baccalaureate program.

UNIQUENESS

Ferris State’s Heavy Equipment program is the only post-secondary program in the State of Michigan that is NATEF certified. Furthermore, we are the only State University in the Great Lakes region to offer Heavy Equipment Technology. Also, the Heavy Equipment Service Engineering Technology program is the only baccalaureate program, in Heavy Equipment, in the country.

Information provided by NATEF, indicates a total of fifteen post-secondary programs in Michigan, Wisconsin, Illinois, Indiana, Ohio, and Pennsylvania. There are nine AED accredited programs in the same area.

VISIBILITY

The visibility of the program is supported through many activities each year:

1. Dawg Days Heavy Equipment faculty and staff participate in each Dawg day throughout the season, guiding prospects and their families through the facility, presenting information on the programs, and answering questions.

2. Tours The program has been actively involved, in conjunction with the Automotive program, in providing tours to visiting secondary Heavy Equipment and Automotive students in an event entitled: “Technicians of the Future Day”. The program first started in 1992. This year eighteen schools and approximately 540 students toured the programs.

3. Recruiting Visits Faculty participate in recruiting visits to many Michigan secondary schools and Career Technical Centers with Heavy Equipment programs, often as a follow up to Technicians of the Future.

4. Skills USA The Heavy Equipment Technology Center has hosted the regional High School completion and

participated in the Skills USA competition for approximately twenty years.

5. Teacher Alumni Due to the uniqueness of the program, most and perhaps all of the secondary Heavy Equipment Teachers in Michigan are Ferris Alumni. Their loyalty to the program ensures visibility to the secondary students of Michigan.
6. NAFA Ferris State University has formed a partnership with the National Association of Fleet Administrators, Inc. (NAFA). "NAFA is the world's premier not-for-profit association for professionals who manage fleets of sedans, public safety vehicles, trucks, and buses of all types and sizes, and a wide range of military and off-road equipment for organizations across the globe. NAFA is the association for the diverse vehicle fleet management profession regardless of organizational type, geographic location, or fleet composition. NAFA's Full and Associate Members are responsible for the specification, acquisition, maintenance and repair, fueling, risk management, and remarketing of more than 3.5 million vehicles including in excess of 1.1 million trucks of which 350 thousand are medium- and heavy-duty trucks." ... www.nafa.org
7. Homecoming The two RSOs within Heavy Equipment participate in the homecoming parade each year enhancing the visibility of the program.

2) Attracting Quality Students

Describe and assess the program's ability to attract quality students.

Currently, the majority of Heavy Equipment students originate from western Michigan, as is usually the case with most programs across the University. With Ferris being the only university in the state offering Heavy Equipment Technology, we enjoy little competition. The Program also offers the only Baccalaureate in Heavy Equipment in the United States. Our affiliation with NAFA has also generated student referrals to the program.

We are also fortunate to have an exemplary facility in the Heavy Equipment Center. Once a prospective student tours the facility and observes the quality of the building, the classrooms, and the instructional equipment, they largely elect to attend FSU. Our primary competition for students, in state, is Lansing Community College, however, LCC charges a Lab fee which results in the cost of their Associate degree being greater than the A.A.S. at Ferris.

3) Competition for Students

Identify the institutions that are the main competitors for prospective students in this program.

PROGRAM COMPETITORS

NATEF CERTIFIED PROGRAMS GREAT LAKES REGION

STATE	SCHOOL	TYPE	DEGREES
Michigan	Ferris State University	State University	B.S., A.A.S., Cert
Wisconsin	Chippewa Valley Comm Coll	Comm College	A.A.S.
	Fox Valley Technical College	Comm College	A.A.S., Diploma
	Madison Technical College	Comm College	A.A.S., Diploma
	NE Wisconsin Tech College	Comm College	A.A.S., Diploma
Illinois	Southeastern Illinois College	Comm College	A.A.S.
	Universal Technical Institute	Private, for Profit	Diploma
Indiana	Lincoln Technical Institute	Private, for Profit	Diploma
Ohio	Ohio Technical College	Private, for Profit	Diploma
	University of Northwest Ohio	Private, for Profit	Diploma
	Washington State Comm Coll	Comm College	A.A.S.
Pennsylvania	Pennsylvania College of Tech	State College	A.A.S., Certificate
	Rosedale Technical Institute	Private, for Profit	A.S.
	Universal Technical Institute	Private, for Profit	Diploma
	Wyotech	Private, for Profit	Diploma

a) Similarity of Competitors

How are these programs similar and different from the FSU program?

When considering our regional competition, the slogan "Imagine More" could not be more relevant. Ferris offers students the opportunity to attend a program whose only focus is to educate and prepare the student for career success. Community Colleges offer the opportunity, but are also encumbered with community avocational and adult enrichment functions, resulting in large class sizes, but low graduation rates. These large classes with limited vocational focus, fail to provide the in-depth, highly technical education needed for success. The private for profit schools exist and are concerned primarily with the profitability of training and often fall short in the classroom. Our true dedication to the education and success of the student results in several transfers from less devoted programs.

b) Competitors Desirable Qualities

What can be learned from them that would improve the program at Ferris?

COST OF ATTENDING

Community Colleges win hands down when a prospective student considers the cost of attending an institution. While there is little we can do to compete with in-state community colleges, elimination of the non-resident tuition premium will greatly assist in the recruiting of out-of-state students. Students coming from Great Lakes Scholarship states, in the east, claim that this program makes Ferris very competitive with the universities in their home states. Complete elimination of the tuition premium will assist to increase enrollment.

ADVERTISING

The private, for profit programs have a significant advantage over FSU in funding available for advertisement. Universal Technical Institute has an extremely effective "infomercial" that was professionally produced. The sixty minute long presentation runs on cable and satellite channels with automotive themes. The format purposely gives the viewer the impression that this is a news show or "report" on the school, in an attempt to lend credence to the "objectivity" of the advertisement. This campaign highlights UTIs Racing programs and has been very effective with high school students.

INTERNET PROMINENCE

All of the private, for profit schools and some of the community colleges have sponsored links which appear at the top of internet search results. While searching for Heavy Equipment and Diesel programs, our program never appeared in the results. We will correct this by the end of the semester.

C. PROGRAM RELEVANCE

1) Labor Market Demand Analysis:

This activity is designed to assess the marketability of future graduates. Reports from the Department of Labor and from industry are excellent sources for forecasting demand on graduates.

We'd like to thank Librarian extraordinaire, Fran Rosen for authoring this section.

FSU's Heavy Equipment Technology programs "are recognized nationally and internationally as a leader in the preparation of entry-level heavy equipment service technicians, fleet managers, and test and research engineers."⁽¹⁾ Employment opportunities exist throughout the economy and throughout the United States.

The HEQT program emphasizes heavy equipment service for the agricultural, construction, forestry, trucking, and auxiliary industries. The Bureau of Labor

Statistics (BLS) projects excellent employment opportunities for heavy equipment service technicians. The BLS report for 2010-2011 includes the following:

"Opportunities for heavy vehicle and mobile equipment service technicians and mechanics should be excellent for those who have completed formal training programs in diesel or heavy equipment mechanics. Employers report difficulty finding candidates with formal postsecondary training to fill available service technician positions. People without formal training are expected to encounter growing difficulty entering these jobs. Most job openings for mobile, rail, and farm equipment technicians will arise from the need to replace experienced repairers who retire or change occupations." ⁽²⁾

In addition the BLS reports that opportunities should be very good for Diesel service technicians and mechanics who have completed formal training programs. ⁽³⁾

Table 1: BLS Projections Data for Heavy Equipment technicians, including diesel:

Occupational Title	SOC Code	Employment 2008	Projected Employment 2018	Growth 2008-18	
				Number	Percent
Heavy vehicle and mobile equipment service technicians and mechanics	49-3040	190,700	206,100	15,500	8
Farm Equipment mechanics	49-3041	31,200	33,400	2,100	7
Mobile heavy equipment mechanics, except engines	49-3042	136,300	148,100	11,800	9
Rail car repairers	49-3043	23,100	24,600	1,500	7
Bus and truck mechanics and diesel engine specialists	49-3031	263,100	278,000	14,900	6

Table 2: BLS Earnings Levels for Heavy Equipment technicians:

Median Hourly Wage in May 2008	
Mobile heavy equipment mechanics	\$20.59
Farm equipment mechanics	\$15.32
Railcar repairers	\$21.48
Bus and truck mechanics and diesel engine specialists	\$18.94

The Heavy Equipment Service Engineering Technology (HSET) is the only BS degree of its kind in the nation. "HSET programming provides instruction to develop the knowledge and skills required to test, diagnose, service, and repair

multiple interfacing and technically sophisticated electrical/electronic systems used on equipment in the agricultural, construction, forestry, stationary power and trucking industries.”⁽¹⁾

HSET graduates find jobs throughout the economy. Throughout the American economy heavy equipment is becoming more sophisticated and more essential. For example, in discussing agriculture and forestry, the BLS writes “The agriculture, forestry, and fishing industry sector is expected to continue to produce more through the use of increasingly productive machinery and increased use of science.”⁽⁴⁾ This will create jobs for HSET graduates. The BLS also predicts employment growth in the Construction industry which will mean a growth in jobs for HSET graduates. Throughout the Occupational Outlook Handbook and the Career Guide to Industries, the BLS continually stresses the importance of additional education and training in finding jobs; this industry need puts HSET graduates in a very strong position.

While these projections do not arouse great optimism, our experience is that these figures are extremely low. We currently (8/06/2010) have twenty seven positions for which we do not have graduates available to fill.

References

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2) Continuous Improvement

Describe and assess how the program responds to emerging issues in the discipline, changes in the labor force, changes in employer needs, changes in student needs, and other forces of change.

a) Technology Changes within the Discipline

Environmental and economical concerns can greatly impact the technology involved in the trucking and heavy equipment industries, with fuel efficiency and exhaust emissions being currently, the two most prominent. As these factors initiate changes in the vehicles and equipment, we must respond with appropriate changes in curricula. While maintaining a current, cutting edge curriculum is important, we must also be careful not to move too quickly. Often, technologies are introduced, incorporated and short lived. This results from numerous causes such as beta test incorporation, rapid obsolescence due to newer technologies, and adverse effects appearing after prolonged use. Prior to adding new technologies to the curricula, we must be certain that the changes will be widely accepted and incorporated, enjoy a fair degree of longevity, and when mastered by our students, will be of great value to them and their future employers.

b) Changes in the Labor Force

A shortage of well trained technicians has existed in the industry for several decades. Because the number of employment opportunities has exceeded the number of graduates available for placement, changes in the workforce has resulted in greater or fewer positions available, but has never resulted in a shortage of employment opportunities.

c) Employer Needs

Our awareness of employer needs results from three primary sources: alumni, employers, and our Advisory Committee. Whenever contact is made with alumni and employers of alumni, the faculty routinely inquires as to current developments in the industry. Developments with the potential to effect the program curricula are circulated to the faculty for analysis and discussion. Should the faculty decide that the issue merits inclusion in or changes to the curriculum, the recommendation is forwarded to the Advisory committee for comment.

The Advisory committee meets twice per year and is a valuable source of input for our program. With representation from the numerous sectors within the Heavy Equipment realm, the committee is a crucial source of input regarding employer needs. All of the corporation represented by the members of the committee employ our graduates and several are graduates of the program themselves. With close ties to the program, they are exceptionally eager to provide input for the continuous improvement of the program.

d) Student Needs

Student needs are addressed as they arise. All faculty members maintain office hours in the building. Faculty members also serve as Academic Advisors, being available to address student needs across the spectrum of student life. The Program Coordinator maintains an office in the building and is available for student contact. The program secretary is also available to assist students and is extremely familiar with university resources. If needs expressed by students are curricular in nature, the concern is addressed at faculty meetings and forwarded to the Advisory Committee for assessment. Needs being policy or practice in nature are acted upon at the faculty level.

e) Other

Faculty

The Heavy Equipment faculty are very active in attending conferences and educational opportunities offered by multiple Original Equipment Manufacturers and Professional Associations within the Industry.

3) Student Satisfaction

Assess why students come to FSU for the program. Summarize the results of the graduate exit survey and the student program evaluation.

Most students attend the Program due to: our location in west Michigan, prior experience in family businesses or employment, and to continue their education following enrollment in local High Schools or Career Technical Centers. The vast majority enjoy the hands-on experiences in the lecture/lab course structure and are seeking employment opportunities in the Heavy Equipment industry.

D. How well does the program meet student expectations?

1) A.A.S. Heavy Equipment Technology

The highest rated program components are the facility, career planning support, employment potential, and availability of additional support. As the A.A.S. degree is very career focused, an emphasis is placed on the career related topics and the student responses seem to indicate success.

Overall, student satisfaction, if gauged numerically, ranged tightly around the center of the scale, which would be "Satisfied", certainly leaving ample opportunity for improvement in the future. Newly implemented assessment and continuous improvement activities will ensure greater student satisfaction in the future.

The two items which elicited the greatest statement of dissatisfaction were the cost of tuition and the cost of the textbooks. Considering the current economic climate, especially within Michigan, this is not surprising when considering tuition. However, the textbook is a comprehensive text used in

multiple courses, resulting in a substantial net savings over the course of the curriculum. The single text costs close to two hundred dollars, and this is what the students are reacting to. A comparison of total two year text costs for other A.A.S. programs may alleviate their dissatisfaction.

B.S. HEAVY EQUIPMENT SERVICE ENGINEERING TECHNOLOGY

The topics indicating the highest degree of student satisfaction are:

- The availability and application of course outcomes.
- The teaching is occupationally oriented.
- The quality of the HSET Instructors.
- The quality of the texts.

Overall, satisfaction expressed by the HSET students is centered around “somewhat satisfied”. This demonstrates a fair level of success while leaving room for improvement of the program in the future.

The HSET students, like the HEQT students, rated the General Education courses low. This should be addressed as the general education courses, which lead to the college degrees, are one factor that sets our program ahead of our trade school competition. It is important that HEET students understand the benefit on the academic degrees.

Concern was also voiced regarding the equipment used for lab courses. Activities are underway to reorganize, repair, discard, and renew the equipment used for our courses. The HEET faculty have been very active in seeking and receiving donations of equipment from industry.

E. How is student sentiment measured?

Students are routinely encouraged to express their impressions, ideas and concerns to their academic advisors and faculty. Faculty are in turn encouraged to bring this input forward to faculty meetings. Students also have open access to the program coordinator and the director of the School of Automotive and heavy Equipment.

In addition, a session is schedule at every advisory committee meeting for the student to meet with the committee without the faculty being present. This meeting has been very effective in the past as an avenue for student expression.

Participation in program co-curricular activities is also a good indicator of student sentiment. Participation in the two RSOs is high, as is participation in the “CET Kick-Off picnic” and homecoming activities.

F. PROGRAM VALUE.

Please refer to the faculty survey.

1) Describe the benefit of the program, facilities, and personnel to the University.

a) Program

The current economic state of Michigan, causing ever diminishing funding of higher education, has created an environment in which enrollment is the single most important factor for solvency. To achieve continued growth it is critical that Ferris continues to be Ferris. In a state already over-populated by “cookie cutter” universities, growth will only be realized by those with something unique to offer prospective students.

Ferris State University was founded as a career oriented institution. The Heavy Equipment program exemplifies this mission, as it has for the previous fifty four years. The curricula of the Associate’s and Baccalaureate degree are centered on the objective of producing career ready graduates.

The A.A.S. in Heavy Equipment Technology prepares students to enter the medium and heavy duty truck, agriculture, construction, forestry, power generation, mining, and marine maintenance industries. In addition, it prepares students wishing to advance the back ground technical expertise needed to matriculate into the Heavy Equipment Service Engineering Technology degree, Career-technical Education, and technical Writing baccalaureates. The vast majority of Heavy Equipment Instructors at the secondary/Career-Technical Centers are Ferris grads. The role this plays in encouraging and recruiting high school students to Ferris is immeasurable.

The B.S. degree in Heavy Equipment Service Engineering Technology is the only baccalaureate in the United States in Heavy Equipment. Employers seeking candidates with educational experience in management and manufacturing to bolster their technical expertise in Heavy Equipment Technology are finding the personnel they seek among our graduates. The program is actively establishing articulation agreements with other accredited Heavy Equipment programs at the community college level.

b) Facilities

The facility, simply put, is a showcase for technical education. A one hundred and twenty seat lecture hall provides a state-of-the-art amenities with wireless control. Unique to the HEC 202 are complete coolant, fuel, and exhaust gas ventilation systems which allow the operation of an engine within the classroom. The room also has an overhead door to facilitate location and relocation of large objects.

The Heavy Equipment Center also includes six laboratories to allow for hands-on experiences with the various parts and components relevant to each area of study. These lab spaces include: the Transmission and Drive line lab, the Brakes and Hydraulics lab, the Multipurpose lab, the Fuels lab which contains four clean rooms for fuel injector pump testing, the Engines lab, and the Power Generation and Transport Refrigeration lab. Also existing

in the facility is a twenty seat computer lab for instructional and student co-curricular use.

Finally, the Center has the Vehicle and Equipment lab which offers space for the students to experience working on whole vehicles and pieces of equipment.

In summary, the facility is a showcase as a dedicated purpose, technical education facility designed to maximize its impact across the three domains of learning

c) Personnel

The faculty and staff of the Heavy Equipment program are very experienced professionals dedicated to the advance of the University and its mission. Most are former Ferris graduates. The faculty is very active in promoting Ferris through recruiting visits, sponsorships of RSOs, participating in committee work across campus, sponsoring FSU Heavy Equipment students in SKILLS, USA, and hosting the SKILLS USA competitions for High School students in the Heavy Equipment Center.

2) Describe the benefit of the program facilities, and personnel to the students enrolled in the program.

a) Facilities

The facility, simply put, is a showcase for technical education. A one hundred and twenty seat lecture hall provides a state-of-the-art amenities with wireless control. Unique to the HEC 202 are complete coolant, fuel, and exhaust gas ventilation systems which allow the operation of an engine within the classroom. The room also has an overhead door to facilitate location and relocation of large objects. This type of environment offers an exceptional setting to ensure the positive transfer of learning during the actual lecture. This room alone is without rival.

The Heavy Equipment Center also includes six laboratories to allow for hands-on experiences with the various parts and components relevant to each area of study. These lab spaces include: the Transmission and Drive line lab, the Brakes and Hydraulics lab, the Multi-purpose lab, the Fuels lab which contains four clean rooms for fuel injector pump testing, the Engines lab, and the Power Generation and Transport Refrigeration lab. Each lab is dedicated to the study of components and parts which comprise the various vehicle systems. This approach allows for concentrated study in an environment conducive to instructor – student interaction.

The Centers Vehicle and Equipment lab offers space for the students to experience working on whole vehicles and pieces of equipment. Once the various components and parts have been examined in depth in the laboratories, the lab section can move to the Vehicle and Equipment lab to

study the incorporation and interaction of the subject components in and with the whole vehicle or piece of equipment.

b) Personnel

The faculty and staff of the Heavy Equipment program are all exceptionally dedicated to the success of our students. Everyone on staff frequently demonstrate their commitment to the advancement of the students through efforts extending well beyond the classroom.

All staff are well educated and have vast years of experience both in the Heavy Equipment realm and in teaching. The combination of dedication, experience, and education has resulted in an extremely effective staff who work tirelessly to ensure our students have a meaningful and highly beneficial experience as they prepare for their careers.

3) What is the assessment of program personnel of the value of the program to employers? Explain how is this value is determined.

a) Program value to Employers

The Heavy Equipment Program enjoys a direct link to employment. Unlike the traditionally, purely academic programs, everything we do is directly linked to the needs of employers and the vocational success of our students. Because of this absolute direct application, there is no question as to the value of the program to employers. We instruct specifically and exactly to the needs of the employers of our graduates. We enjoy a very active Advisory Committee representing several of some of the major employers of our students. The dedication of the faculty to this mission colors their assessments of the various program components and is evident in question number three of the faculty survey.

b) Determination

The assessment of the staff's perception of the value of the program to employers was determined by analyzing the faculty responses to the items in question three of the faculty survey, the dialog which occurs between the faculty and the members of the advisory committee, and from interaction with faculty during staff and curriculum committee meetings. The faculty routinely links virtually every decision, every activity in the program to the employability of the student. This is of course innate in Technical Education and is always the focus of our mission.

4) Describe the benefit of the program, faculty, staff and facilities to entities external to the University.

Services that faculty have provided to accreditation bodies, and regional, state, and national professional associations; manuscript reviewing; service on editorial boards; use of facilities for meetings, etc.

a) Program

The greatest benefit that the program has contributed to entities external to the university lies within the strengths and talents of our graduates. By producing exceptionally talented and ethical professionals, employers and the customers they serve are assured the highest degree of satisfaction realized through the expertise of our alumni. Additional benefits are realized through the service activities of the two Student Organizations. From providing volunteer assistance at the national NAFA convention this past year, to assisting seniors with maintenance needs around their Big Rapids residences, the positive impacts of the program have been felt locally and nationally.

b) Faculty

The faculty are deeply engaged in work throughout the community from governmental unit service, church activities, Scouting, charitable groups, to coaching and parent organizations in the local schools. The faculty also maintain multiple memberships in organizations active in the vehicle and equipment maintenance and repair industries, fleet management, the Society of Automotive Engineers, and higher education.

c) Staff

We have two new staff members in Heavy equipment this year and their activities external to the University are unknown.

d) Facilities

The facility is utilized by groups external to the University. An antique tractor club holds their monthly meeting in the Heavy equipment Center. The lecture hall is often used for presentations such as the Staples orientation held this summer. Also, the Corporate and Professional Development center utilizes the Heavy Equipment Center for their summer Motorcycle Safety Training program.

5) What services for extra-University general public groups (e.g., presentations in schools or to community organizations) have faculty, staff or students provided? Describe how these services benefit students, program, and community.

Efforts in this arena are focused on the recruiting of potential students. By visiting high schools and community colleges and presenting the Heavy equipment program, students are made aware of an educational and career opportunity they have not otherwise experienced. There is a large shortage of skilled technicians in the industry and by recruiting potential students, the program can assist in filling these vacancies.

Section 2: Survey Information

Collection of Perceptions. The survey sections must include, among others, a discussion of techniques used in collecting the information, difficulties encountered during the survey process, number and percent of respondents and analysis of data in accordance with established methodologies. The survey instruments must be designed and distributed, in consultation with Institutional Research and Testing, to reflect general aspects of program review as well as the specific nature of the program itself. All comments should be included, but names of individuals mentioned should be deleted.

A. SURVEY TECHNIQUE

TECHNIQUES USED IN COLLECTING THE INFORMATION

The Institutional Research and Testing (IR&T) group were used for conducting the surveys. All surveys were distributed via email.

DIFFICULTIES ENCOUNTERED DURING THE SURVEY PROCESS

The only difficulty event was in the number of surveys returned, undeliverable due to incorrect or non-existing email addresses.

NUMBER AND PERCENT OF RESPONDENTS

2 year	64 emails	3 bounces	14 complete	14/61	23%
4 year	32 emails	0 bounces	6 complete	6/32	19%
Advisory	31 emails	5 bounces	13 complete	13/26	50%
Alumni	135 emails	32 bounces	27 complete	27/103	26%
Employer	26 emails	2 bounces	7 complete	7/24	29%
2 yr Exit	30 emails	1 bounce	5 complete	5/29	17%
4 yr Exit	8 emails,	0 bounces	0 complete	0/8	0%
Faculty	5 emails	0 bounces	3 complete	3/5=	60%

The IR&T office commented that these return rates are quite good compared to most of the return rates of most programs. The zero return rate on the 4 year current student survey may indicate that the same survey was sent to the same six students as the 4 year exiting student survey. HSET graduated six students last year.

ANALYSIS OF DATA

The data was analyzed for frequent commonality in areas of concern, satisfaction, and high satisfaction.

B. GRADUATE FOLLOW-UP SURVEY:

The purpose of this activity is to learn from graduates their perceptions and experiences regarding employment based on program outcomes. The goal is to assess effectiveness of the program in terms of job placement and preparedness of the graduate for the marketplace. A mailed or e-mailed questionnaire is most preferred; however, under certain conditions telephone or personal interviews can be used to gather data.

HEAVY EQUIPMENT ALUMNI SURVEY

In order to assist the Heavy Equipment Department with our Academic Program Review (APR) process, we are asking you to take a few minutes to complete this survey. You, as alumni, can provide valuable feedback on the courses you took and offer feedback from your current perspective in the industry.

Q1 From which FSU Heavy Equipment program did you graduate?

- Heavy Equipment Technology (AAS) **only**
 Heavy Equipment Service Engineering Technology (BS) **only**
 Both Heavy Equipment Technology and Heavy Equipment Service Engineering Technology

1) Heavy Equipment Technology (A.A.S.)

Q2 To what extent does a graduate require the course knowledge for each of the courses listed below.

	Not at All	Very Little	Somewhat	To a Great Extent	Did Not Take
Trouble Shooting Strategies (HEQT 100)	0	0	3	22	0

Logical thought process used in analyzing and trouble-shooting system malfunctions. Practical applications of trouble shooting strategies are stressed.

Heavy Equipment Maintenance Fundamentals (HEQT 101)	0	0	10	15	0
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Practical safe use of tools, equipment and instruments used for the diagnosing and servicing of heavy equipment will be covered. Identification, ordering information, proper use of various fittings, fasteners, wire and wire terminals and lubricants will be presented.

Heavy Equipment Electronics Fundamentals (HEQT 110)	0	0	1	24	0
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Basic theory of electricity and electronics as applied to the Heavy Equipment industry. Use of instruments for measuring current, voltage and resistance will be emphasized

	Not at All	Very Little	Somewhat	To a Great Extent	Did Not Take
Heavy Equipment Engine Technology (HEQT 120)	0	0	6	19	0
Theory of operation and repair of the gas and diesel internal combustion engine. Also included will be the theory and applications of gasoline and gaseous fuel systems.					
Fluid Power Fundamentals (HEQT 160)	0	1	3	21	0
Theory and practical applications of fluid power principles as applied to the Heavy Equipment industry. The proper use of testing equipment will be presented.					
Industry Internship (HEQT 193)	0	1	7	13	3
This course is designed to have students gain the competencies needed to become a successful entry-level technician by repairing and servicing various types of equipment used in the heavy equipment industry.					
Planned Maintenance Systems (HEQT 200)	0	1	10	13	1
Manual and computerized procedures used in preventive maintenance systems. Course will include preventive maintenance inspection procedures.					
Transport Refrigeration Systems (HEQT 201)	2	1	7	12	3
Mobile applications of air conditioning and transport refrigeration will be covered to include trouble-shooting and repair of these units.					
Heavy Equipment Electrical Systems (HEQT 210)	0	0	2	23	0
Theory and application of heavy duty electrical systems including repair and adjustment of charging, cranking, ignition and accessory circuits. Proper trouble-shooting procedures will be emphasized.					
Diesel Fuel Systems Technology (HEQT 230)	0	0	3	22	0
A study of the traditional and electronically controlled diesel fuel systems. Emphasis is placed on the major systems in use today with diagnostic and tune-up procedures on running engines in the dynamometer laboratory.					
Heavy Equipment Brakes & Suspension Systems (HEQT 240)	1	2	5	17	0
The theory and application of braking, suspension and steering systems on various types of on and off road vehicles. State of the art measuring and adjusting equipment will be utilized.					
Heavy Equipment Power Transfer Technology (HEQT 270)	0	2	5	17	0
The theory of operation and application of various mechanical gearing and driveline components.					

	Not at All	Very Little	Somewhat	To a Great Extent	Did Not Take
Heavy Equipment Automatic Transmissions (HEQT 271)	1	0	8	13	3
Transmissions and control systems which have application to the trucking, construction, agriculture, forestry and auxiliary power industries will be presented.					
English 150 (ENGL 150)	0	1	11	12	1
Organize and develop papers for diverse audiences and purposes including how to discover and focus on a topic, develop ideas, gather support and draft and revise papers effectively. Fundamental language skills and library research and argumentation.					
Industrial and Career Writing (ENGL 211)	0	1	8	14	1
English 211 is a basic course designed to prepare the student to write successfully on the job as an employee or a first-line supervisor. It includes basic forms of business and technological writing to assist the student in developing sound communication practices.					
Intermediate Algebra and Numerical Trigonometry (MATH 116)	0	6	9	7	3
Special factoring of forms, exponents, roots and radicals, scientific notation, fractions, first and second degree equations and inequalities, functions and graphs, logarithms, solutions of logarithmic and exponential equations, systems of equations up to 3x3, Cramer's Rule, numerical trigonometry including vectors, Law of Sines and Cosines and graphs of trigonometric functions.					
Concepts of Physics (PHYS 130)	0	3	10	10	1
A survey of physical concepts including mechanics, wave motion, heat, electricity and magnetism, light and selected topics in modern physics. A minimum of mathematics is utilized to develop problem solving skills. Emphasis is placed on concept development so that science in a modern society may be recognized and appreciated.					
Cultural Enrichment (In General 3 credits)	2	11	8	3	0
e.g., HUMN, ARTS, HIST, SPAN					
Social Awareness (In General, 3 credits)	4	7	11	3	0
e.g., PSYC, SOCY, PLSC, SSCI					

2) Heavy Equipment Service Engineering Technology (B.S.)

Q3 To what extent does a graduate require the course knowledge for each of the courses listed below.

	Not at All	Very Little	Somewhat	To a Great Extent	Did Not Take
Applied Failure Analysis (HSET 300):	0	0	5	12	4
A study of failure analysis methods, causes and results. The application of practical situations will be stressed.					
Fleet Management (HSET 302)	1	0	7	9	4
Management techniques and related topics such as planning, organizing, scheduling and controlling as applies to heavy duty equipment fleets are introduced with emphasis on leadership qualities and people skills. Manual and computerized fleet maintenance systems are also covered with emphasis on the RTA computerized fleet maintenance systems. Other topics such as procurement, risk management, accident prevention and reporting will also be covered.					
Industry Internship (HSET 393)	0	0	6	12	3
Work experience with manufacturers, distributors or dealerships. Written weekly progress reports are required.					
Testing Systems and Analysis (HSET 403)	1	0	3	13	4
The study and application of the various types of testing methods used to qualify the durability of components used in industry are studied. Various types of control sensors and signal conditioning pertaining to cycling tests are emphasized. Hands-on experience in designing and setting up actual tests are the foundation of the course.					
Interactive Electronic Controls (HSET 410)	1	1	1	14	4
This course will present various data collection components that are utilized in interactive control systems. Components, electronic communication signal conditioning and interfaces will be studied. Hands-on experience and applied troubleshooting procedures will be utilized through the use of instructor inserted problems in interactive and integrated systems/circuits.					
Heavy Equipment Advanced Hydraulic Systems (HSET 460)	1	1	2	13	4
A study of the various types of valving combinations used to control specific function on heavy equipment machinery, the manual control of hydraulic systems, including motors and cylinders, is the primary emphasis of the course. The principles of closed loop hydrostatic pump motor controls are also studied.					
Principles of Accounting 1 (ACCT 201)	2	3	5	5	6
Introduction to accounting principles with an external reporting emphasis on the preparation and use of financial statements. Includes recording and adjusting accounts, the accounting cycle, accounting for merchandising operations, internal control and cash, receivables, inventories, assets, liabilities, corporate organization, stock transactions, dividends and retained earnings and investments.					
OSHA Laws and Regulations CAHS 330)	0	2	7	6	6
Examines and discusses existing Federal (OSHA) and State of Michigan (MIOSHA) standards and/or laws. The coverage of these laws and their effect on business and industry. Proposed standards and their effect on occupational safety and health legislation. Emphasis on the current "Right to Know" laws and case evaluation.					
Small Group Decision Making (COMM 221)	0	5	7	4	5
<i>Decision making and problem-solving in small groups. Students participate in groups and evaluate group functioning from the perspective of small group communication concepts.</i>					

	Not at All	Very Little	Somewhat	To a Great Extent	Did Not Take
Principles of Macroeconomics (ECON 221)	1	5	8	2	5
Scope and meaning of economic principles basic to a free market economy. Equilibrium price formation and the efficiency of resource allocation in a market economy. National income accounting; determination of equilibrium national income, recession and expansion. Government policy toward economic fluctuation; unemployment and inflation. The role of money and banking in recession and inflation.					
Advanced Technical Writing (ENGL 311)	0	1	8	8	4
An advanced course designed to train the student as a technical communicator. The student is taught to present technical concepts, facts, data analysis and evaluation to both a scientific or technical audience. Included are skills in editing, organization and development of technical articles for publication, abstracting, proposals, memorandum reports, project/progress reports, technical descriptions, professional and technical letters, and the protocols of formal research reporting.					
Algebra & Analytic Trigonometry (MATH 126)	1	5	7	3	5
Analytic trigonometry and trigonometric equations, the j-operator, DeMoivre's Theorem, non-linear inequalities, applications of logarithmic and exponential equations and plane analytic geometry with polar sketching. Equations of higher degree including the remainder theorem, synthetic division, rational and irrational roots of polynomials.					
Introduction to Material Science (MATL 240)	0	1	5	11	4
Introduction to the study of the science of engineering materials: metals, polymers and ceramics. Included in topics of study are atomic structure and bonding, properties selections and testing of materials, failure modes, methods of production and fabrication, methods of changing properties including heat treatment of metals, alloying and surface treatments, mechanical working, composites and compound bonding. The common classification systems used to identify the various engineering materials are also covered.					
Applied Management (MGMT 301)	1	0	9	6	5
A description and analysis of business activities designed to manage an organization to efficiently serve employees, customers and the community. Topics studied include planning, organizing, leading and controlling: the business environment, business institutions, government regulations, organizational structure, human resources, human behavior and current practices. Designed to meet the needs of graduates and employers in the global economy.					
Introductory Physics 1 (PHYS 211)	0	3	6	7	5
Basic concepts and applications of motion, force, energy, fluids, heat and sound.					
Ethics & Professionalism in Engineering and Technology (SURE 331)	0	2	8	3	8
Discusses the codes of ethics which have been adopted by many engineering societies. Explain meaning and attributes of professionalism along with the ethical, moral and social responsibilities of technologists and engineers. Also standards, law, safety, risks, obligations of loyalty to employer, professional client relationship, global awareness, bribery, contracts and intellectual property are discussed.					
Directed Elective (In General 3 credits of a 300/400 level class)	2	5	7	4	3
e.g., MGE, BLAW, ISYS, MECH					
Cultural Enrichment (In General, 6 credits)	3	6	7	2	3
e.g., HUMN, ARTS, HIST, SPAN, GERM					

	Not at All	Very Little	Somewhat	To a Great Extent	Did Not Take
Social Awareness (In Genera, 6 credits)	4	5	6	3	3

e.g. PSYC, SOCY, PLSC, SSCI, ECON

Q4 In thinking over your experiences at FSU, to what extent do you feel your education prepared you for success in the following areas?

	Not at All	Very Little	Somewhat	To a Great Extent	Did Not Take
Overall technical training	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gaining a broad general education about different fields of knowledge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Writing clearly and effectively	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Acquiring proficiency with the use of computers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Developing values and ethical standards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The ability to think analytically and logically	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The ability to learn on your own, pursue ideas and find info you need	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How effectively did the FSU Heavy Equipment program(s) prepare you for employment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q5 What is your last approximate annual salary?

- Less than \$50,000
- \$50,000 - \$59,999
- \$60,000 - \$69,999
- \$70,000 - \$79,999
- \$80,000 or more

Q6 What industry are you employed in?

- Over the road trucking
- Construction
- Agriculture
- Electrical Power Generation
- Other Please specify:

Q7 What is your job title?

- Engineer
- Technician
- Mechanic
- Service Manager
- Sales
- Other Please specify:

- Q8 Are you currently enrolled in a degree granting program?
- Bachelor's of Science
 - Master's of Science
 - Master's of Business Administration
 - Master's of Technical Education
 - Doctoral
 - No
- Q9 Have you received an additional degree(s) since completing the FSU Heavy Equipment Program?
- Bachelor's of Science
 - Master's of Science
 - Master's of Business Administration
 - Master's of Technical Education
 - Doctoral
 - No
- Q10 What do you believe was the most valuable part of your coursework?
- Q11 What do you believe was the least valuable part of your coursework?
- Q12 What trends in the heavy equipment industry do you see impacting the Heavy Equipment program(s) in the next five years?
- Q13 In general, how satisfied were you with your overall experience in the Heavy Equipment program(s) at Ferris State University?
- Not at all
 - Very little
 - Neutral
 - Somewhat
 - To a great extent
- Q14 Would you recommend the Heavy Equipment program(s) to a friend or relative?
- Yes
 - No
 - Not sure
- Q15 Does your company currently employ FSU Heavy Equipment graduates?
- Yes
 - No
- Q16 Are you a direct supervisor for FSU Heavy Equipment graduates?
- Yes
 - No

Q17 Are you responsible for hiring?

- Yes
 No

Q18 If so, would you be willing to complete a short employer survey?

- Yes
 No

Q19 If so, would you be willing to be added to the employer database?

- Yes
 No

Q20 If you are willing to complete an employer survey and/or be added to the employer database, please provide your name, company name, company address and your valid e-mail address.

3) Heavy Equipment Alumni SURVEY RESULTS

Frequencies

Prepared by: Institutional Research & Testing, 05/10

Statistics

	N		Mean	Median	Std. Deviation
	Valid	Missing			
q1 Program	24	3	2.08	3.00	1.018
q2a (HEQT 100) Trouble Shooting Strategies	25	2	3.88	4.00	.332
q2b (HEQT 101) Maintenance Fundamentals	25	2	3.60	4.00	.500
q2c (HEQT 110) Electronics Fundamentals	25	2	3.96	4.00	.200
q2d (HEQT 120) Engine Technology	25	2	3.76	4.00	.436
q2e (HEQT 160) Fluid Power Fundamentals	25	2	3.80	4.00	.500
q2f (HEQT 193) Industry Internship	24	3	3.75	4.00	.737
q2g (HEQT 200) Planned Maintenance Systems	25	2	3.56	4.00	.651
q2h (HEQT 201)Transport Refrigeration Systems	25	2	3.52	4.00	1.046
q2i (HEQT 210) Electrical Systems	25	2	3.92	4.00	.277
q2j (HEQT 230) Diesel Fuel Systems Technology	25	2	3.88	4.00	.332

q2k (HEQT 240) Brakes & Suspension Systems	25	2	3.52	4.00	.823
q2l (HEQT 270) Power Transfer Technology	24	3	3.63	4.00	.647
q2m (HEQT 271) Automatic Transmissions	25	2	3.68	4.00	.852
q2n (ENGL 150) English 1	25	2	3.52	4.00	.653
q2o (ENGL 211) Industrial & Career Writing	24	3	3.63	4.00	.647
q2p (MATH 116) Intermed Alg & Numerical Trig	25	2	3.28	3.00	.980
q2q (PHYS 130) Concepts of Physics	24	3	3.38	3.00	.770
q2r (In General, 3 credits) Cultural Enrichment	24	3	2.50	2.00	.834
q2s (In General, 3 credits) Social Awareness	25	2	2.52	3.00	.918
q3a (HSET 300) Applied Failure Analysis	21	6	3.95	4.00	.669
q3b (HSET 302) Fleet Management	21	6	3.71	4.00	.956
q3c (HSET 393) Industry Internship	21	6	3.86	4.00	.655
q3d (HSET 403) Testing Systems and Analysis	21	6	3.95	4.00	.740
q3e (HSET 410) Interactive Electronic Controls	21	6	3.90	4.00	.944
q3f (HSET 460) Advanced Hydraulic Systems	21	6	3.86	4.00	.964
q3g (ACCT 201) Principles of Accounting	21	6	3.48	4.00	1.327
q3h (CAHS 330) OSHA Laws and Regulations	21	6	3.76	4.00	.995
q3i (COMM 221) Small Group Decision Making	21	6	3.43	3.00	1.121
q3j (ECON 221) Principles of Macroeconomics	21	6	3.24	3.00	1.221
q3k (ENGL 311) Advanced Technical Writing	21	6	3.71	4.00	.845
q3l (MATH 126) Algebra & Analytic Trig	21	6	3.29	3.00	1.231
q3m (MATL 240) Intro to Material Science	21	6	3.86	4.00	.793
q3n (MGMT 301) Applied Management	21	6	3.67	4.00	1.017
q3o (PHYS 211) Introductory Physics 1	21	6	3.67	4.00	1.017
q3p (SURE 331) Ethics & Professionalism in Engineering and Technology	21	6	3.81	4.00	1.078
q3q (In General, 3 credits of a 300/400 level class) Directed Elective	21	6	3.05	3.00	1.203

q3r (In General, 6 credits) Cultural Enrichment	21	6	2.81	3.00	1.250
q3s (In General, 6 credits) Social Awareness	21	6	2.81	3.00	1.327
q4a Overall technical training	26	1	3.69	4.00	.471
q4b Gaining a broad general education about different fields of knowledge	26	1	3.65	4.00	.562
q4c Writing clearly and effectively	26	1	3.58	4.00	.643
q4d Acquiring proficiency with the use of computers	26	1	3.62	4.00	.804
q4e Developing values and ethical standards	26	1	3.38	3.50	.752
q4f The ability to think analytically and logically	26	1	3.54	4.00	.508
q4g The ability to learn on your own, pursue ideas & find info	26	1	3.54	4.00	.582
q4h How effectively did the program(s) prepare you for employment	26	1	3.69	4.00	.471
q5 Last approximate annual salary	25	2	2.64	2.00	1.524
q6 Industry are you employed in	26	1	3.92	4.50	1.324
q6a Industry Other specified	27	0			
q7 Job title	24	3	4.08	5.00	1.976
q7a Title Other specified	27	0			
q8 Currently enrolled in degree granting program	26	1	5.27	6.00	1.614
q9 Received an additional degree(s)	26	1	5.38	6.00	1.525
q10 Most valuable part of coursework	27	0			
q11 Least valuable part of coursework	27	0			
q12 Trends in the heavy equipment industry do you see	27	0			
q13 How satisfied were you with overall experience	26	1	3.58	4.00	.758
q14 Would you recommend the HEQT program(s)	26	1	1.15	1.00	.543
q15 Company currently employ HEQT grads	25	2	1.36	1.00	.490
q16 Direct supervisor for grads	26	1	1.85	2.00	.368
q17 Responsible for hiring	26	1	1.92	2.00	.272

q18 Willing to complete a short employer survey	2	25	2.00	2.00	.000
q19 Willing to be added to the employer database	2	25	1.50	1.50	.707
q21 Additional comments	27	0			

Frequency Table

q1 Program

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Heavy Equipment Technology (AAS) only	11	40.7	45.8	45.8
	Both Heavy Equipment Technology and Heavy Equipment Service Engineering Technology	13	48.1	54.2	100.0
	Total	24	88.9	100.0	
Missing	System	3	11.1		
Total		27	100.0		

q2a (HEQT 100) Trouble Shooting Strategies

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat	3	11.1	12.0	12.0
	To a Great Extent	22	81.5	88.0	100.0
	Total	25	92.6	100.0	
Missing	System	2	7.4		
Total		27	100.0		

q2b (HEQT 101) Maintenance Fundamentals

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat	10	37.0	40.0	40.0
	To a Great Extent	15	55.6	60.0	100.0
	Total	25	92.6	100.0	
Missing	System	2	7.4		
Total		27	100.0		

2c (HEQT 110) Electronics Fundamentals

		Frequency	Percent	Valid Percent	Cumulative Percent

Valid	Somewhat	1	3.7	4.0	4.0
	To a Great Extent	24	88.9	96.0	100.0
	Total	25	92.6	100.0	
Missing	System	2	7.4		
Total		27	100.0		

q2d (HEQT 120) Engine Technology

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat	6	22.2	24.0	24.0
	To a Great Extent	19	70.4	76.0	100.0
	Total	25	92.6	100.0	
Missing	System	2	7.4		
Total		27	100.0		

q2e (HEQT 160) Fluid Power Fundamentals

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	1	3.7	4.0	4.0
	Somewhat	3	11.1	12.0	16.0
	To a Great Extent	21	77.8	84.0	100.0
	Total	25	92.6	100.0	
Missing	System	2	7.4		
Total		27	100.0		

q2f (HEQT 193) Industry Internship

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	1	3.7	4.2	4.2
	Somewhat	7	25.9	29.2	33.3
	To a Great Extent	13	48.1	54.2	87.5
	Did Not Take	3	11.1	12.5	100.0
	Total	24	88.9	100.0	
Missing	System	3	11.1		
Total		27	100.0		

q2g (HEQT 200) Planned Maintenance Systems

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	1	3.7	4.0	4.0
	Somewhat	10	37.0	40.0	44.0
	To a Great Extent	13	48.1	52.0	96.0
	Did Not Take	1	3.7	4.0	100.0
	Total	25	92.6	100.0	
Missing	System	2	7.4		
Total		27	100.0		

q2h (HEQT 201)Transport Refrigeration Systems

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at All	2	7.4	8.0	8.0
	Very Little	1	3.7	4.0	12.0
	Somewhat	7	25.9	28.0	40.0
	To a Great Extent	12	44.4	48.0	88.0
	Did Not Take	3	11.1	12.0	100.0
	Total	25	92.6	100.0	
Missing	System	2	7.4		
Total		27	100.0		

q2i (HEQT 210) Electrical Systems

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat	2	7.4	8.0	8.0
	To a Great Extent	23	85.2	92.0	100.0
	Total	25	92.6	100.0	
Missing	System	2	7.4		
Total		27	100.0		

q2j (HEQT 230) Diesel Fuel Systems Technology

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat	3	11.1	12.0	12.0

	To a Great Extent	22	81.5	88.0	100.0
	Total	25	92.6	100.0	
Missing	System	2	7.4		
Total		27	100.0		

q2k (HEQT 240) Brakes & Suspension Systems

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at All	1	3.7	4.0	4.0
	Very Little	2	7.4	8.0	12.0
	Somewhat	5	18.5	20.0	32.0
	To a Great Extent	17	63.0	68.0	100.0
	Total	25	92.6	100.0	
Missing	System	2	7.4		
Total		27	100.0		

q2l (HEQT 270) Power Transfer Technology

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	2	7.4	8.3	8.3
	Somewhat	5	18.5	20.8	29.2
	To a Great Extent	17	63.0	70.8	100.0
	Total	24	88.9	100.0	
Missing	System	3	11.1		
Total		27	100.0		

q2m (HEQT 271) Automatic Transmissions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at All	1	3.7	4.0	4.0
	Somewhat	8	29.6	32.0	36.0
	To a Great Extent	13	48.1	52.0	88.0
	Did Not Take	3	11.1	12.0	100.0
	Total	25	92.6	100.0	
Missing	System	2	7.4		
Total		27	100.0		

q2n (ENGL 150) English 1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	1	3.7	4.0	4.0
	Somewhat	11	40.7	44.0	48.0
	To a Great Extent	12	44.4	48.0	96.0
	Did Not Take	1	3.7	4.0	100.0
	Total	25	92.6	100.0	
Missing	System	2	7.4		
Total		27	100.0		

q2o (ENGL 211) Industrial & Career Writing

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	1	3.7	4.2	4.2
	Somewhat	8	29.6	33.3	37.5
	To a Great Extent	14	51.9	58.3	95.8
	Did Not Take	1	3.7	4.2	100.0
	Total	24	88.9	100.0	
Missing	System	3	11.1		
Total		27	100.0		

q2p (MATH 116) Intermed Alg & Numerical Trig

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	6	22.2	24.0	24.0
	Somewhat	9	33.3	36.0	60.0
	To a Great Extent	7	25.9	28.0	88.0
	Did Not Take	3	11.1	12.0	100.0
	Total	25	92.6	100.0	
Missing	System	2	7.4		
Total		27	100.0		

q2q (PHYS 130) Concepts of Physics

		Frequency	Percent	Valid Percent	Cumulative Percent

Valid	Very Little	3	11.1	12.5	12.5
	Somewhat	10	37.0	41.7	54.2
	To a Great Extent	10	37.0	41.7	95.8
	Did Not Take	1	3.7	4.2	100.0
	Total	24	88.9	100.0	
Missing	System	3	11.1		
Total		27	100.0		

q2r (In General, 3 credits) Cultural Enrichment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at All	2	7.4	8.3	8.3
	Very Little	11	40.7	45.8	54.2
	Somewhat	8	29.6	33.3	87.5
	To a Great Extent	3	11.1	12.5	100.0
	Total	24	88.9	100.0	
Missing	System	3	11.1		
Total		27	100.0		

q2s (In General, 3 credits) Social Awareness

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at All	4	14.8	16.0	16.0
	Very Little	7	25.9	28.0	44.0
	Somewhat	11	40.7	44.0	88.0
	To a Great Extent	3	11.1	12.0	100.0
	Total	25	92.6	100.0	
Missing	System	2	7.4		
Total		27	100.0		

q3a (HSET 300) Applied Failure Analysis

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat	5	18.5	23.8	23.8
	To a Great Extent	12	44.4	57.1	81.0
	Did Not Take	4	14.8	19.0	100.0

	Total	21	77.8	100.0	
Missing	System	6	22.2		
Total		27	100.0		

q3b (HSET 302) Fleet Management

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at All	1	3.7	4.8	4.8
	Somewhat	7	25.9	33.3	38.1
	To a Great Extent	9	33.3	42.9	81.0
	Did Not Take	4	14.8	19.0	100.0
	Total	21	77.8	100.0	
Missing	System	6	22.2		
Total		27	100.0		

q3c (HSET 393) Industry Internship

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat	6	22.2	28.6	28.6
	To a Great Extent	12	44.4	57.1	85.7
	Did Not Take	3	11.1	14.3	100.0
	Total	21	77.8	100.0	
Missing	System	6	22.2		
Total		27	100.0		

q3d (HSET 403) Testing Systems and Analysis

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	1	3.7	4.8	4.8
	Somewhat	3	11.1	14.3	19.0
	To a Great Extent	13	48.1	61.9	81.0
	Did Not Take	4	14.8	19.0	100.0
	Total	21	77.8	100.0	
Missing	System	6	22.2		
Total		27	100.0		

q3e (HSET 410) Interactive Electronic Controls

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at All	1	3.7	4.8	4.8
	Very Little	1	3.7	4.8	9.5
	Somewhat	1	3.7	4.8	14.3
	To a Great Extent	14	51.9	66.7	81.0
	Did Not Take	4	14.8	19.0	100.0
	Total	21	77.8	100.0	
Missing	System	6	22.2		
Total		27	100.0		

q3f (HSET 460) Advanced Hydraulic Systems

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at All	1	3.7	4.8	4.8
	Very Little	1	3.7	4.8	9.5
	Somewhat	2	7.4	9.5	19.0
	To a Great Extent	13	48.1	61.9	81.0
	Did Not Take	4	14.8	19.0	100.0
	Total	21	77.8	100.0	
Missing	System	6	22.2		
Total		27	100.0		

q3g (ACCT 201) Principles of Accounting

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at All	2	7.4	9.5	9.5
	Very Little	3	11.1	14.3	23.8
	Somewhat	5	18.5	23.8	47.6
	To a Great Extent	5	18.5	23.8	71.4
	Did Not Take	6	22.2	28.6	100.0
	Total	21	77.8	100.0	
Missing	System	6	22.2		
Total		27	100.0		

q3h (CAHS 330) OSHA Laws and Regulations

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	2	7.4	9.5	9.5
	Somewhat	7	25.9	33.3	42.9
	To a Great Extent	6	22.2	28.6	71.4
	Did Not Take	6	22.2	28.6	100.0
	Total	21	77.8	100.0	
Missing	System	6	22.2		
Total		27	100.0		

q3i (COMM 221) Small Group Decision Making

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	5	18.5	23.8	23.8
	Somewhat	7	25.9	33.3	57.1
	To a Great Extent	4	14.8	19.0	76.2
	Did Not Take	5	18.5	23.8	100.0
	Total	21	77.8	100.0	
Missing	System	6	22.2		
Total		27	100.0		

q3j (ECON 221) Principles of Macroeconomics

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at All	1	3.7	4.8	4.8
	Very Little	5	18.5	23.8	28.6
	Somewhat	8	29.6	38.1	66.7
	To a Great Extent	2	7.4	9.5	76.2
	Did Not Take	5	18.5	23.8	100.0
	Total	21	77.8	100.0	
Missing	System	6	22.2		
Total		27	100.0		

q3k (ENGL 311) Advanced Technical Writing

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	1	3.7	4.8	4.8

	Somewhat	8	29.6	38.1	42.9
	To a Great Extent	8	29.6	38.1	81.0
	Did Not Take	4	14.8	19.0	100.0
	Total	21	77.8	100.0	
Missing	System	6	22.2		
Total		27	100.0		

q3l (MATH 126) Algebra & Analytic Trig

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at All	1	3.7	4.8	4.8
	Very Little	5	18.5	23.8	28.6
	Somewhat	7	25.9	33.3	61.9
	To a Great Extent	3	11.1	14.3	76.2
	Did Not Take	5	18.5	23.8	100.0
	Total	21	77.8	100.0	
Missing	System	6	22.2		
Total		27	100.0		

q3m (MATL 240) Intro to Material Science

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	1	3.7	4.8	4.8
	Somewhat	5	18.5	23.8	28.6
	To a Great Extent	11	40.7	52.4	81.0
	Did Not Take	4	14.8	19.0	100.0
	Total	21	77.8	100.0	
Missing	System	6	22.2		
Total		27	100.0		

q3n (MGMT 301) Applied Management

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at All	1	3.7	4.8	4.8
	Somewhat	9	33.3	42.9	47.6
	To a Great Extent	6	22.2	28.6	76.2

	Did Not Take	5	18.5	23.8	100.0
	Total	21	77.8	100.0	
Missing	System	6	22.2		
Total		27	100.0		

q3o (PHYS 211) Introductory Physics 1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	3	11.1	14.3	14.3
	Somewhat	6	22.2	28.6	42.9
	To a Great Extent	7	25.9	33.3	76.2
	Did Not Take	5	18.5	23.8	100.0
	Total	21	77.8	100.0	
Missing	System	6	22.2		
Total		27	100.0		

q3p (SURE 331) Ethics & Professionalism in Engineering and Technology

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	2	7.4	9.5	9.5
	Somewhat	8	29.6	38.1	47.6
	To a Great Extent	3	11.1	14.3	61.9
	Did Not Take	8	29.6	38.1	100.0
	Total	21	77.8	100.0	
Missing	System	6	22.2		
Total		27	100.0		

q3q (In General, 3 credits of a 300/400 level class) Directed Elective

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at All	2	7.4	9.5	9.5
	Very Little	5	18.5	23.8	33.3
	Somewhat	7	25.9	33.3	66.7
	To a Great Extent	4	14.8	19.0	85.7
	Did Not Take	3	11.1	14.3	100.0
	Total	21	77.8	100.0	
Missing	System	6	22.2		

q3q (In General, 3 credits of a 300/400 level class) Directed Elective

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at All	2	7.4	9.5	9.5
	Very Little	5	18.5	23.8	33.3
	Somewhat	7	25.9	33.3	66.7
	To a Great Extent	4	14.8	19.0	85.7
	Did Not Take	3	11.1	14.3	100.0
	Total	21	77.8	100.0	
Missing	System	6	22.2		
Total		27	100.0		

q3r (In General, 6 credits) Cultural Enrichment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at All	3	11.1	14.3	14.3
	Very Little	6	22.2	28.6	42.9
	Somewhat	7	25.9	33.3	76.2
	To a Great Extent	2	7.4	9.5	85.7
	Did Not Take	3	11.1	14.3	100.0
	Total	21	77.8	100.0	
Missing	System	6	22.2		
Total		27	100.0		

q3s (In General, 6 credits) Social Awareness

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at All	4	14.8	19.0	19.0
	Very Little	5	18.5	23.8	42.9
	Somewhat	6	22.2	28.6	71.4
	To a Great Extent	3	11.1	14.3	85.7
	Did Not Take	3	11.1	14.3	100.0
	Total	21	77.8	100.0	
Missing	System	6	22.2		
Total		27	100.0		

q4a Overall technical training

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat	8	29.6	30.8	30.8
	To a Great Extent	18	66.7	69.2	100.0
	Total	26	96.3	100.0	
Missing	System	1	3.7		
Total		27	100.0		

q4b Gaining a broad general education about different fields of knowledge

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	1	3.7	3.8	3.8
	Somewhat	7	25.9	26.9	30.8
	To a Great Extent	18	66.7	69.2	100.0
	Total	26	96.3	100.0	
Missing	System	1	3.7		
Total		27	100.0		

q4c Writing clearly and effectively

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	2	7.4	7.7	7.7
	Somewhat	7	25.9	26.9	34.6
	To a Great Extent	17	63.0	65.4	100.0
	Total	26	96.3	100.0	
Missing	System	1	3.7		
Total		27	100.0		

q4d Acquiring proficiency with the use of computers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	3	11.1	11.5	11.5
	Somewhat	6	22.2	23.1	34.6
	To a Great Extent	15	55.6	57.7	92.3
	Did Not Take	2	7.4	7.7	100.0
	Total	26	96.3	100.0	

Missing	System	1	3.7		
Total		27	100.0		

q4e Developing values and ethical standards

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at All	1	3.7	3.8	3.8
	Very Little	1	3.7	3.8	7.7
	Somewhat	11	40.7	42.3	50.0
	To a Great Extent	13	48.1	50.0	100.0
	Total	26	96.3	100.0	
Missing	System	1	3.7		
Total		27	100.0		

q4f The ability to think analytically and logically

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat	12	44.4	46.2	46.2
	To a Great Extent	14	51.9	53.8	100.0
	Total	26	96.3	100.0	
Missing	System	1	3.7		
Total		27	100.0		

q4g The ability to learn on your own, pursue ideas & find info

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	1	3.7	3.8	3.8
	Somewhat	10	37.0	38.5	42.3
	To a Great Extent	15	55.6	57.7	100.0
	Total	26	96.3	100.0	
Missing	System	1	3.7		
Total		27	100.0		

q4h How effectively did the program(s) prepare you for employment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat	8	29.6	30.8	30.8
	To a Great Extent	18	66.7	69.2	100.0
	Total	26	96.3	100.0	
Missing	System	1	3.7		
Total		27	100.0		

q5 Last approximate annual salary

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than \$50,000	8	29.6	32.0	32.0
	\$50,000-\$59,999	5	18.5	20.0	52.0
	\$60,000-\$69,999	5	18.5	20.0	72.0
	\$70,000-\$79,999	2	7.4	8.0	80.0
	\$80,000 or more	5	18.5	20.0	100.0
	Total	25	92.6	100.0	
Missing	System	2	7.4		
Total		27	100.0		

q6 Industry are you employed in

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Over the road trucking	1	3.7	3.8	3.8
	Construction	5	18.5	19.2	23.1
	Agriculture	2	7.4	7.7	30.8
	Electrical Power Generation	5	18.5	19.2	50.0
	Other	13	48.1	50.0	100.0
	Total	26	96.3	100.0	
Missing	System	1	3.7		
Total		27	100.0		

q6a Industry Other specified

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		12	44.4	44.4	44.4
	All of the above	1	3.7	3.7	48.1

Aviation	1	3.7	3.7	51.9
Construction, Mining and Agriculture	1	3.7	3.7	55.6
dealer	1	3.7	3.7	59.3
Diesel engine manufacturing	1	3.7	3.7	63.0
education	1	3.7	3.7	66.7
Education	1	3.7	3.7	70.4
electric coop.	1	3.7	3.7	74.1
Engineering and development of current model year and proto-type diesel engine	1	3.7	3.7	77.8
mobile technician for a international transmission company (ITC)	1	3.7	3.7	81.5
Municipality	1	3.7	3.7	85.2
Research and Development at Corporate level	1	3.7	3.7	88.9
Research and development	1	3.7	3.7	92.6
State Government TXDOT	1	3.7	3.7	96.3
Truck and School Bus	1	3.7	3.7	100.0
Total	27	100.0	100.0	

q7 Job title

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Technician	11	40.7	45.8	45.8
	Sales	2	7.4	8.3	54.2
	Other	11	40.7	45.8	100.0
	Total	24	88.9	100.0	
Missing	System	3	11.1		
Total		27	100.0		

q7a Title Other specified

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		11	40.7	40.7	40.7
	Caterpillar dealer heavy equipment field mechanic	1	3.7	3.7	44.4
	Customer Service Engineer. Navistar. Inc. International Truck and Engine Corp.	1	3.7	3.7	48.1

Director - PGen Operations & Rentals	1	3.7	3.7	51.9
Engineer, Technician, and Sales	1	3.7	3.7	55.6
Global Sales and Marketing Project Manager	1	3.7	3.7	59.3
Inspector Supervisor	1	3.7	3.7	63.0
instructor	1	3.7	3.7	66.7
Instructor	1	3.7	3.7	70.4
Last job...Director of Distributor Development	1	3.7	3.7	74.1
Maintenance Inspector level 2	1	3.7	3.7	77.8
member service rep.	1	3.7	3.7	81.5
mobile tech	1	3.7	3.7	85.2
owner	1	3.7	3.7	88.9
Product Support Manager	1	3.7	3.7	92.6
Technical Advisor	1	3.7	3.7	96.3
Technician/Assistant Service Manager	1	3.7	3.7	100.0
Total	27	100.0	100.0	

q8 Currently enrolled in degree granting program

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bachelor's of Science	2	7.4	7.7	7.7
	Master's of Science	1	3.7	3.8	11.5
	Master's of Business Administration	1	3.7	3.8	15.4
	Master's of Technical Administration	1	3.7	3.8	19.2
	No	21	77.8	80.8	100.0
	Total	26	96.3	100.0	
Missing	System	1	3.7		
Total		27	100.0		

q9 Received an additional degree(s)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bachelor's of Science	2	7.4	7.7	7.7
	Master's of Business Administration	2	7.4	7.7	15.4
	No	22	81.5	84.6	100.0
	Total	26	96.3	100.0	
Missing	System	1	3.7		
Total		27	100.0		

q10 Most valuable part of coursework

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		7	25.9	25.9	25.9
	Advanced electronics.	1	3.7	3.7	29.6
	All of it as a whole. There are a lot of valuable classes and programs that made me adequate for th efield of service.	1	3.7	3.7	33.3
	Each part plays a critical roll in the work place and the person.	1	3.7	3.7	37.0
	Electrical theory and the power generation courses were very valuable to me - being in the power gen field.	1	3.7	3.7	40.7
	Engine Overhaul, Electrical Troubleshooting, and Failure Analysis were the most valuable part of my coursework.	1	3.7	3.7	44.4
	Ferris coursework provided a good foundation of the basics needed to understand current products, and not needing training on basic diesel theory.	1	3.7	3.7	48.1
	GETTING THE BASICS OF THE HEAVY EQUIPMENT REPAIR AND OPERATION.	1	3.7	3.7	51.9
	Hands on application of concepts during group projects and assignments	1	3.7	3.7	55.6
	hands on experience, wish that there would have been more of it, rather then class presentations.	1	3.7	3.7	59.3

Hands on lab work, instructors that took a valued interest in the students. Although it's been years since graduation, I still remember every instructor's name who took additional time and effort to see that every student had an understanding. There are few people like that in the world today. I would like to say also that in today industries effective communication skills & professionalism can't be stressed enough. I do owe the HES program a great deal of thanks for where it has taken me through my career.	1	3.7	3.7	63.0
It helped me prepare to work on trucks but had very little to no preparation to work on agriculture equipment.	1	3.7	3.7	66.7
Overall experience on the variety of the heavy equipment in the market place. The shop work was important to help with not only working on the equipment but interaction with a number of different individuals to get the job done.	1	3.7	3.7	70.4
Service floor, which is no longer part of the program.	1	3.7	3.7	74.1
Technical classroom training with hands on labs and equipment to work on.	1	3.7	3.7	77.8
The basic knowledge of systems that make equipment work. A technician must know all of the basics first. From there they can understand more complex systems. This gives the technician the ability to troubleshoot any machine or brand. The basics of systems never change no matter where the machine is made or by who.	1	3.7	3.7	81.5
the basics were taught so well that it is easy to understand how any system works	1	3.7	3.7	85.2

The internship which allowed me to get started with Caterpillar and get a taste of the real world work environment. Also having to deal with group projects and demanding instructors prepared me to cope with unfair and frustrating work situations. I didn't become a master in my field but I learned enough about heavy equipment to stay safe, out of trouble and be successful. In addition, job fairs were a great way to see what careers were available and practice interviewing.	1	3.7	3.7	88.9
The Lab work	1	3.7	3.7	92.6
To understand system operation allow logical troubleshooting of problems.	1	3.7	3.7	96.3
Without a doubt, the hands on aspect of the courses. Textbooks are fine, but I am one of the many who learn better by doing, not just by reading about it.	1	3.7	3.7	100.0
Total	27	100.0	100.0	

q11 Least valuable part of coursework

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		8	29.6	29.6	29.6
	Classes like ethics and psychology.	1	3.7	3.7	33.3
	electives	1	3.7	3.7	37.0
	Engineering Ethics, or the teachers were hitrocious.	1	3.7	3.7	40.7
	I can't really say there was anything invaluable, like anything, you get out of something what you put into it. I did take a computer course for programming to fill a humanities requirement, which to me was a complete waste of time and money, but I needed to fill the requirement.	1	3.7	3.7	44.4
	I felt some of the labs needed to be hands on and not more lecture time.	1	3.7	3.7	48.1

I'm an optimist, so even the bad has some value. Spanish, because I learned that despite a man's efforts some things are just not part of his God given talents.	1	3.7	3.7	51.9
Lecture only sessions	1	3.7	3.7	55.6
looking back none.	1	3.7	3.7	59.3
My time at Ferris was during a staff restructuring and the classes I had with the more seasoned staff, were way under par, as the instructors seemed to lack intuitive and the courses suffered greatly, meanwhile the new staff was working feverishly to update the curriculum that was left for them and ran out of time to get the new materials organized enough to teach.	1	3.7	3.7	63.0
N/A	1	3.7	3.7	66.7
No part seemed less than others.	1	3.7	3.7	70.4
social awareness classes.	1	3.7	3.7	74.1
Some gen ed classes - although required and may provide a well rounded education - do not seem to be used directly very often at all.	1	3.7	3.7	77.8
SOME OF THE GENERAL EDUCATION CLASSES	1	3.7	3.7	81.5
Some of the general Education classes could be changed to different aspects towards HEQT degree	1	3.7	3.7	85.2
Testing systems and analysis was very outdated.	1	3.7	3.7	88.9
The general educational classes, although I understand why they are required.	1	3.7	3.7	92.6
The program I completed in 1980 was well rounded and I did not take any class that I think was not valuable.	1	3.7	3.7	96.3
Unnecessary training on transport refrigeration units	1	3.7	3.7	100.0
Total	27	100.0	100.0	

q12 Trends in the heavy equipment industry do you see

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		6	22.2	22.2	22.2
	tech is going to need a strong background troubleshooting not only mechanically, but also electronically. From 2002 to current production, these engines have had a great deal of sophisticated components added to them. Techs are required to be proficient in using window-based troubleshooting software tools. Overhead & operating costs in business are big issues especially in the trucking industry techs need to be skillful and accurate when diagnosing/repairing. Any downtime to a trucker or company is money lost to its competitor. Last fall I did attend the open-house @ the heavy equipment center, I did note that there seems to be a lack of newer style heavy duty diesel engines. I may have missed it, but I did not see 1 engine equipped with what is referred to as EGR. The EPA required all HDD manufactures in 2002 to have some type of emission devices to lower N.O.X levels. Now 8yrs later the program should have @ a minimum of 1 from the big 3, Cat, Cummins, and De troit. I understand corporations are tough on giving out material, but it has to be available to learn on. Back when I was looking for a program there was only one program that was known and recommend for heavy equipment, that was Ferris. If the heavy equipment program would like to show their commitment to the industry the materials need to be available for the students.	1	3.7	3.7	25.9
	Aftertreatment devices for engines and how the service intervals and procedures will be effected by EAP laws.	1	3.7	3.7	29.6
	CAN/BUS communication. Diesel after-treatment systems and control.	1	3.7	3.7	33.3

computerization of drive systems on large quarry equipment and on electro hydraulic operation on smaller equipment used in Lease or rental operations.	1	3.7	3.7	37.0
computers and electronics and alternative systems	1	3.7	3.7	40.7
electrical components, and computer diagnosis	1	3.7	3.7	44.4
Electrical, and computers	1	3.7	3.7	48.1
Electricity, and fuel systems.	1	3.7	3.7	51.9
Electronics will become even more prevalent on machines. Technician will become hybrid(includes being a technician,engineer and business savvy).	1	3.7	3.7	55.6
Electronics, computers and the Green movement.	1	3.7	3.7	59.3
ELECTRONICS, EMISSIONS, AND POWER GENERATION	1	3.7	3.7	63.0
Emissions and Electronics.	1	3.7	3.7	66.7
Emissions Laws on Diesel Engines, American Economy status, New Technology, Lots of growth.	1	3.7	3.7	70.4
Emissions Requirements like SCR and OBD3 compliance are going to force everyone to know about new components like DEF pumps, Diesel Catalysts, and filters regeneration processes. HSET graduates need to be specially trained in log file troubleshooting and new maintenance procedures for these 2010 equipment.	1	3.7	3.7	74.1

Emissions, air quality is the current war that the diesel community fights. Competition from technical programs and advertising is also a large reason that the program will suffer. Ferris needs to focus on the fact that they are Accredited from the U.S. Department of Education, if it was not for this i would not have the career that I have today. There is a huge gap in the trained technician and the educated engineer, with my education i can further bridge that gap, and with more mechanical engineering coursework I feel that I would have been more prepared and educated to do my research and development more efficiently. I wish that time was not a factor and that I could retake my coursework so that I might enjoy the program that I am sure the new staff have continued to perfect. Mr. Wilson and Mr. Maike made my college education a path that I continued, when at times I believed that I was making a poor investment.	1	3.7	3.7	77.8
Emmision standards will play a big role as well as alternative fuels.	1	3.7	3.7	81.5
Further use of advanced technology..alternative fuels and power plants.	1	3.7	3.7	85.2
Green diesel, Technology,	1	3.7	3.7	88.9
I see the field becoming more specialized. The days of having one "do all" guy in the shop have gone by the way side. With today's advanced technology, each specific system has become more complex then the complete machine was a decade ago.	1	3.7	3.7	92.6
Major increases in the need to be extremely proficient in electrical diagnostics.	1	3.7	3.7	96.3
More and more electronics, from engines to drivetrain	1	3.7	3.7	100.0
Total	27	100.0	100.0	

q13 How satisfied were you with overall experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	3.7	3.8	3.8
	Somewhat Dissatisfied	1	3.7	3.8	7.7
	Somewhat Satisfied	6	22.2	23.1	30.8
	Very Satisfied	18	66.7	69.2	100.0
	Total	26	96.3	100.0	
Missing	System	1	3.7		
Total		27	100.0		

q14 Would you recommend the HEQT program(s)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	24	88.9	92.3	92.3
	Not sure	2	7.4	7.7	100.0
	Total	26	96.3	100.0	
Missing	System	1	3.7		
Total		27	100.0		

q15 Company currently employ HEQT grads

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	16	59.3	64.0	64.0
	No	9	33.3	36.0	100.0
	Total	25	92.6	100.0	
Missing	System	2	7.4		
Total		27	100.0		

q16 Direct supervisor for grads

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	4	14.8	15.4	15.4
	No	22	81.5	84.6	100.0
	Total	26	96.3	100.0	

Missing	System	1	3.7		
Total		27	100.0		

q17 Responsible for hiring

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	2	7.4	7.7	7.7
	No	24	88.9	92.3	100.0
	Total	26	96.3	100.0	
Missing	System	1	3.7		
Total		27	100.0		

q18 Willing to complete a short employer survey

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	2	7.4	100.0	100.0
Missing	System	25	92.6		
Total		27	100.0		

q19 Willing to be added to the employer database

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	1	3.7	50.0	50.0
	No	1	3.7	50.0	100.0
	Total	2	7.4	100.0	
Missing	System	25	92.6		
Total		27	100.0		

q21 Additional comments

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	14	51.9	51.9	51.9
Ferris has been on the cutting edge of industry for many years and needs input from all industrial operation to assist in expanding for future industry. Thank you for helping those students to lead a trade to help society for the future	1	3.7	3.7	55.6
Ferris Was a Good College, Wish I stayed Longer and Got my Masters due to today seems like the BS degree is like a high school diploma.	1	3.7	3.7	59.3
i didn't know how well prepared i was for the job place until i got working with others in the feild and saw how unprepared they are.	1	3.7	3.7	63.0
I feel the program needs to reach out to graduates more and hear what actually is going on out in the field. The trends we see and the jobs we are actually doing on a day to day basis. Most of the course work I did in the program really wasn't relevant to modern equipment repair.	1	3.7	3.7	66.7
I graduated from the first class offered in 1960. I only stayed in the business for about two years and I had a career change. I'm sorry but I can't answer the majority of the questions. I believe the questions are directed to the later graduating classes.	1	3.7	3.7	70.4
I have heard from current students that they are unable to work on the service floor on their own stuff and i believe that any Heavy Equipment student should be able to work on anything at anytime on the service floor.	1	3.7	3.7	74.1
I know a lot of changes have taken place since I have graduated, but most of the things were out of date when I went through the program.	1	3.7	3.7	77.8

<p>I went through HES for my A.A.S. and then Trade Technical Education for my B.S. from Dec.1971 to Nov.1974 straight through summers and carried 21 credits while finishing HES and starting TTE during the same semester. Ferris Rocks and I have recommended the Programs to all my part time summer help,especially anyone who goes to Michigan State. Now I'm retired for two years and I could not have gotten here without Ferris State College. Duane Blucher Student ID 75709</p>	1	3.7	3.7	81.5
<p>My company has made many donations of Trucks as well as Engines to the program. We have done this in order to continue to give back the latest technology to our students. My main wish is that Ferris would make better management decisions in who they allow to run the day to day operations in Heavy Equipment. Keith Cripe and Greg Nicholson are NOT the future of this program...</p>	1	3.7	3.7	85.2
<p>Thank you for including me in this it has motivated me to become more involved in "our" program and hopefully I will be able to give back as many of our grads gave back for myself.</p>	1	3.7	3.7	88.9
<p>The education received at FSU really prepared me to get the first job and gave me the confidence that I could continue my education at advanced levels. After FSU I obtained a BSME and MBA. Without the base of knowledge provided by FSU I would not have had the opportunities to enhance my career.</p>	1	3.7	3.7	92.6
<p>The Heavy Equipment program needs to do more to "sell" the program to potential students. Possible future students are constantly lost due to a lack of advertisement and information regarding the program.</p>	1	3.7	3.7	96.3

	There are always completes about life, work and polotics. Still my time at Ferris was a good experience.	1	3.7	3.7	100.0
	Total	27	100.0	100.0	

C. EMPLOYER FOLLOW-UP SURVEY:

This activity is intended to aid in assessing the employers' experiences with graduates and their perceptions of the program itself. A mailed or e-mailed questionnaire is most preferred; however, under certain conditions telephone or personal interviews can be used to gather data.

1) Heavy Equipment Employer Survey

The Heavy Equipment Program of the School of Automotive & Heavy Equipment at Ferris State University is conducting a survey of employers of heavy equipment technicians to be used in the continuing development and improvement of the Heavy Equipment program. Thank you for taking the time to complete this survey. Your answers will be of great help in determining the future direction of the program.

Q1 Approximately how many employees work at this facility?

- Less than 50
- 50-100
- 101-500
- 501-1000
- Over 1000

Q2 Approximately how many Heavy Equipment technicians work at this facility?

- None
- 1-2
- 3-4
- 5-8
- 9-12
- Over 12

Q3 What description best fits your company's primary activity? (Select all that apply.)

- Construction
- Agriculture
- Over-the-Road Trucking
- Electrical Power Generation
- Fleet Management
- Other Please specify:

Q4 Does your company currently have one or more Ferris State Heavy Equipment Engineering Tech graduates on staff?

- Yes
- No
- Unsure

Q5 If so, how well do you feel that the FSU graduate(s) was/were prepared to work for your company?

- Very unprepared
- Somewhat unprepared
- Somewhat prepared
- Very prepared

Q6 To what extent does an employer require the course knowledge for each of the courses listed below.

	Not at All	Very Little	Somewhat	To a Great Extent	Did Not Take
Trouble Shooting Strategies (HEQT 100) Logical thought process used in analyzing and trouble-shooting system malfunctions. Practical applications of trouble shooting strategies are stressed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Heavy Equipment Maintenance Fundamentals (HEQT 101) Practical safe use of tools, equipment and instruments used for the diagnosing and servicing of heavy equipment will be covered. Identification, ordering information, proper use of various fittings, fasteners, wire and wire terminals and lubricants will be presented.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Heavy Equipment Electronics Fundamentals (HEQT 110) Basic theory of electricity and electronics as applied to the Heavy Equipment industry. Use of instruments for measuring current, voltage and resistance will be emphasized.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Heavy Equipment Engine Technology (HEQT 120) Theory of operation and repair of the gas and diesel internal combustion engine. Also included will be the theory and applications of gasoline and gaseous fuel systems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fluid Power Fundamentals (HEQT 160) Theory and practical applications of fluid power principles as applied to the Heavy Equipment industry. The proper use of testing equipment will be presented.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Industry Internship (HEQT 193) This course is designed to have students gain the competencies needed to become a successful entry-level technician by repairing and servicing various types of equipment used in the heavy equipment industry.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Planned Maintenance Systems (HEQT 200) Manual and computerized procedures used in preventive maintenance systems. Course will include preventive maintenance inspection procedures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Not at All	Very Little	Somewhat	To a Great Extent	Did Not Take
Transport Refrigeration Systems (HEQT 201)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mobile applications of air conditioning and transport refrigeration will be covered to include trouble-shooting and repair of these units.					
Heavy Equipment Electrical Systems (HEQT 210)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Theory and application of heavy duty electrical systems including repair and adjustment of charging, cranking, ignition and accessory circuits. Proper trouble-shooting procedures will be emphasized.					
Diesel Fuel Systems Technology (HEQT 230)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A study of the traditional and electronically controlled diesel fuel systems. Emphasis is placed on the major systems in use today with diagnostic and tune-up procedures on running engines in the dynamometer laboratory.					
Heavy Equipment Brakes & Suspension Systems (HEQT 240)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The theory and application of braking, suspension and steering systems on various types of on and off road vehicles. State of the art measuring and adjusting equipment will be utilized.					
Heavy Equipment Power Transfer Technology (HEQT 270)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The theory of operation and application of various mechanical gearing and driveline components.					
Heavy Equipment Automatic Transmissions (HEQT 271)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Transmissions and control systems which have application to the trucking, construction, agriculture, forestry and auxiliary power industries will be presented.					
English 150 (ENGL 150)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Organize and develop papers for diverse audiences and purposes including how to discover and focus on a topic, develop ideas, gather support and draft and revise papers effectively. Fundamental language skills and library research and argumentation.					
Industrial and Career Writing (ENGL 211)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
English 211 is a basic course designed to prepare the student to write successfully on the job as an employee or a first-line supervisor. It includes basic forms of business and technological writing to assist the student in developing sound communication practices.					

	Not at All	Very Little	Somewhat	To a Great Extent	Did Not Take
Intermediate Algebra and Numerical Trigonometry (MATH 116)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Special factoring of forms, exponents, roots and radicals, scientific notation, fractions, first and second degree equations and inequalities, functions and graphs, logarithms, solutions of logarithmic and exponential equations, systems of equations up to 3x3, Cramer's Rule, numerical trigonometry including vectors, Law of Sines and Cosines and graphs of trigonometric functions.					
Concepts of Physics (PHYS 130)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A survey of physical concepts including mechanics, wave motion, heat, electricity and magnetism, light and selected topics in modern physics. A minimum of mathematics is utilized to develop problem solving skills. Emphasis is placed on concept development so that science in a modern society may be recognized and appreciated.					
Cultural Enrichment (In General 3 credits)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e.g., HUMN, ARTS, HIST, SPAN					
Social Awareness (In General, 3 credits)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e.g., PSYC, SOCY, PLSC, SSCI					

Q7 To what extent does an employer require the course knowledge for each of the courses listed below.

	Not at All	Very Little	Somewhat	To a Great Extent	Did Not Take
Applied Failure Analysis (HSET 300):	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A study of failure analysis methods, causes and results. The application of practical situations will be stressed.					
Fleet Management (HSET 302)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Management techniques and related topics such as planning, organizing, scheduling and controlling as applies to heavy duty equipment fleets are introduced with emphasis on leadership qualities and people skills. Manual and computerized fleet maintenance systems are also covered with emphasis on the RTA computerized fleet maintenance systems. Other topics such as procurement, risk management, accident prevention and reporting will also be covered.					
Industry Internship (HSET 393)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Work experience with manufacturers, distributors or dealerships. Written weekly progress reports are required.					
Testing Systems and Analysis (HSET 403)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The study and application of the various types of testing methods used to qualify the durability of components used in industry are studied. Various types of control sensors and signal conditioning pertaining to cycling tests are emphasized. Hands-on experience in designing and setting up actual tests are the foundation of the course.					

	Not at All	Very Little	Somewhat	To a Great Extent	Did Not Take
Interactive Electronic Controls (HSET 410)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
This course will present various data collection components that are utilized in interactive control systems. Components, electronic communication signal conditioning and interfaces will be studied. Hands-on experience and applied troubleshooting procedures will be utilized through the use of instructor inserted problems in interactive and integrated systems/circuits.					
Heavy Equipment Advanced Hydraulic Systems (HSET 460)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A study of the various types of valving combinations used to control specific function on heavy equipment machinery, the manual control of hydraulic systems, including motors and cylinders, is the primary emphasis of the course. The principles of closed loop hydrostatic pump motor controls are also studied.					
Principles of Accounting 1 (ACCT 201)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Introduction to accounting principles with an external reporting emphasis on the preparation and use of financial statements. Includes recording and adjusting accounts, the accounting cycle, accounting for merchandising operations, internal control and cash, receivables, inventories, assets, liabilities, corporate organization, stock transactions, dividends and retained earnings and investments.					
OSHA Laws and Regulations CAHS 330)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Examines and discusses existing Federal (OSHA) and State of Michigan (MIOSHA) standards and/or laws. The coverage of these laws and their effect on business and industry. Proposed standards and their effect on occupational safety and health legislation. Emphasis on the current "Right to Know" laws and case evaluation.					
Small Group Decision Making (COMM 221)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Decision making and problem-solving in small groups. Students participate in groups and evaluate group functioning from the perspective of small group communication concepts.</i>					
Principles of Macroeconomics (ECON 221)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Scope and meaning of economic principles basic to a free market economy. Equilibrium price formation and the efficiency of resource allocation in a market economy. National income accounting; determination of equilibrium national income, recession and expansion. Government policy toward economic fluctuation; unemployment and inflation. The role of money and banking in recession and inflation.					
Advanced Technical Writing (ENGL 311)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
An advanced course designed to train the student as a technical communicator. The student is taught to present technical concepts, facts, data analysis and evaluation to both a scientific or technical audience. Included are skills in editing, organization and development of technical articles for publication, abstracting, proposals, memorandum reports, project/progress reports, technical descriptions, professional and technical letters, and the protocols of formal research reporting.					
Algebra & Analytic Trigonometry (MATH 126)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analytic trigonometry and trigonometric equations, the j-operator, DeMoivre's Theorem, non-linear inequalities, applications of logarithmic and exponential equations and plane analytic geometry with polar sketching. Equations of higher degree including the remainder theorem, synthetic division, rational and irrational roots of polynomials.					

	Not at All	Very Little	Somewhat	To a Great Extent	Did Not Take
Introduction to Material Science (MATL 240)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Introduction to the study of the science of engineering materials: metals, polymers and ceramics. Included in topics of study are atomic structure and bonding, properties selections and testing of materials, failure modes, methods of production and fabrication, methods of changing properties including heat treatment of metals, alloying and surface treatments, mechanical working, composites and compound bonding. The common classification systems used to identify the various engineering materials are also covered.					
Applied Management (MGMT 301)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A description and analysis of business activities designed to manage an organization to efficiently serve employees, customers and the community. Topics studied include planning, organizing, leading and controlling: the business environment, business institutions, government regulations, organizational structure, human resources, human behavior and current practices. Designed to meet the needs of graduates and employers in the global economy.					
Introductory Physics 1 (PHYS 211)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Basic concepts and applications of motion, force, energy, fluids, heat and sound.					
Ethics & Professionalism in Engineering and Technology (SURE 331)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Discusses the codes of ethics which have been adopted by many engineering societies. Explain meaning and attributes of professionalism along with the ethical, moral and social responsibilities of technologists and engineers. Also standards, law, safety, risks, obligations of loyalty to employer, professional client relationship, global awareness, bribery, contracts and intellectual property are discussed.					
Directed Elective (In General 3 credits of a 300/400 level class)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e.g., MGE, BLAW, ISYS, MECH					
Cultural Enrichment (In General, 6 credits)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e.g., HUMN, ARTS, HIST, SPAN, GERM					
Social Awareness (In General, 6 credits)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e.g. PSYC, SOCY, PLSC, SSCI, ECON					

Q8 For each item listed below, please choose the option that best represents your perception.

	Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree	Don't Know
HEQT/HSET students are well prepared to enter the workforce.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FSU HEQT/HSET Programs prepare students to enter industry better than other schools.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree	Don't Know
HEQT/HSET grads contribute as much as other grads in their first 6 months of employment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HEQT/HSET Programs provide a foundation for multiple career possibilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Adequate placement assistance is provided to graduates.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q9 During the last year, has your company experienced difficulty in hiring qualified heavy equipment technicians?

- Yes
- No
- Don't know/Not applicable

Q10 Please indicate your best estimate describing the growth potential for heavy equipment technicians at your company during the next year.

- Probable reduction in staff
- Average/Steady
- Probable increase in staff

Q11 Are you familiar with the differences between the A.A.S. Engineering and the B.S. Engineering Service Technology degree programs?

- Yes
- No

Q12 When hiring a new graduate for a heavy equipment technician position, which type of degree do you prefer? (Please select only one.)

- Associate of Applied Sciences in Heavy Equipment Engineering Technology
- Bachelor of Science in Heavy Equipment Service Engineering Technology
- No preference

Q13 Are you familiar with NATEF & AED accreditation?

- Yes
- No

Q14 Please use this space to provide any additional comments or suggestions you have regarding the Heavy Equipment programs at Ferris State University.

Q15 Please use this space to provide any additional general comments.

Thank you for your time and assistance!

2) Heavy Equipment Employer Survey results

Frequencies

Prepared by: Institutional Research & Testing, 05/10

Statistics

	N		Mean	Median	Std. Deviation
	Valid	Missing			
q1 Number of employees	7	0	2.00	1.00	1.732
q2 Number of Heavy Equipment technicians	7	0	4.86	6.00	1.952
q3a Primary: Construction	6	1	.00	.00	.000
q3b Primary: Agriculture	6	1	.17	.00	.408
q3c Primary: Over-the-Road Trucking	6	1	.33	.00	.516
q3d Primary: Electrical Power Generation	6	1	.33	.00	.516
q3e Primary: Fleet Management	6	1	.00	.00	.000
q3f Primary: Other	6	1	.50	.50	.548
q3g Primary: Other specified	7	0			
q4 Have one or more HEET grads	7	0	1.14	1.00	.378
q5 Feel grad(s) prepared	6	1	3.00	3.00	1.095
q6a (HEQT 100) Trouble Shooting Strategies	7	0	4.00	4.00	.000
q6b (HEQT 101) Maintenance Fundamentals	7	0	3.71	4.00	.488
q6c (HEQT 110) Electronics Fundamentals	7	0	4.00	4.00	.000
q6d (HEQT 120) Engine Technology	7	0	3.57	4.00	.787
q6e (HEQT 160) Fluid Power Fundamentals	7	0	3.71	4.00	.488
q6f (HEQT 193) Industry Internship	7	0	3.29	3.00	.756
q6g (HEQT 200) Planned Maintenance Systems	7	0	3.29	3.00	.756
q6h (HEQT 201) Transport Refrigeration Systems	7	0	2.57	3.00	1.272
q6i (HEQT 210) Electrical Systems	7	0	4.00	4.00	.000
q6j (HEQT 230) Diesel Fuel Systems Technology	7	0	3.71	4.00	.756
q6k (HEQT 240) Brakes & Suspension Systems	7	0	3.71	4.00	.488
q6l (HEQT 270) Power Transfer Technology	7	0	3.71	4.00	.488
q6m (HEQT 271) Automatic Transmissions	7	0	3.43	4.00	.787
q6n (ENGL 150) English 1	7	0	3.57	4.00	.535
q6o (ENGL 211) Industrial and Career Writing	7	0	3.71	4.00	.488
q6p (MATH 116) Intermed Alg and Num Trig	7	0	3.29	3.00	.488
q6q (PHYS 130) Concepts of Physics	7	0	3.57	4.00	.535
q6r (In General, 3 credits) Cultural Enrichment	6	1	3.17	3.00	.753
q6s (In General, 3 credits) Social Awareness	6	1	3.17	3.50	.983
q7a (HSET 300) Applied Failure Analysis	7	0	3.71	4.00	.756

q7b (HSET 302) Fleet Management	7	0	3.57	4.00	.787
q7c (HSET 393) Industry Internship	7	0	3.57	4.00	.535
q7d (HSET 403) Testing Systems and Analysis	7	0	3.43	4.00	.787
q7e (HSET 410) Interactive Electronic Controls	7	0	3.43	4.00	.787
q7f (HSET 460) Advanced Hydraulic Systems	7	0	3.71	4.00	.488
q7g (ACCT 201) Principles of Accounting	7	0	3.00	3.00	.816
q7h (CAHS 330) OSHA Laws and Regulations	7	0	3.86	4.00	.378
q7i (COMM 221) Small Group Decision Making	7	0	3.57	4.00	.535
q7j (ECON 221) Principles of Macroeconomics	7	0	2.86	3.00	.690
q7k (ENGL 311) Advanced Technical Writing	7	0	3.43	3.00	.535
q7l (MATH 126) Algebra & Analytic Trig	7	0	2.86	3.00	.690
q7m (MATL 240) Intro to Material Science	7	0	3.00	3.00	.816
q7n (MGMT 301) Applied Management	7	0	3.00	3.00	.816
q7o (PHYS 211) Introductory Physics 1	7	0	3.29	3.00	.756
q7p (SURE 331) Ethics & Professionalism in Engineering & Tech	7	0	3.57	4.00	.535
q7q (3 credits of a 300/400 level class) Directed Elective	7	0	3.00	3.00	.577
q7r (In General, 6 credits) Cultural Enrichment	7	0	2.57	3.00	.976
q7s (In General, 6 credits) Social Awareness	7	0	2.71	3.00	.756
q8a Students are well prepared to enter workforce	7	0	3.57	3.00	.787
q8b Progs prepare students to enter industry better	7	0	3.43	3.00	.535
q8c Grads contribute as much as other grads in their first 6 months	7	0	3.86	4.00	.690
q8d Progs provide a foundation for multiple career possibilities	7	0	3.86	4.00	.690
q8e Adequate placement assistance is provided to graduates	7	0	4.14	4.00	.900
q9 Company experienced difficulty	7	0	1.57	2.00	.535
q10 Best estimate describing the growth	7	0	2.29	2.00	.488
q11 Familiar with the differences between AAS & BS	7	0	1.29	1.00	.488
q12 Type of degree prefer	7	0	2.29	2.00	.488
q13 Familiar with NATEF & AED accreditation	7	0	1.29	1.00	.488
q14 Additional prog specific comments	7	0			
q15 Additional general comments	7	0			

Frequency Table

q1 Number of employees

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fewer than 50	5	71.4	71.4	71.4
	501-1000	1	14.3	14.3	85.7
	More than 1000	1	14.3	14.3	100.0
	Total	7	100.0	100.0	

q2 Number of Heavy Equipment technicians

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-2	2	28.6	28.6	28.6
	More than 12	5	71.4	71.4	100.0
	Total	7	100.0	100.0	

q3a Primary: Construction

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Selected	6	85.7	100.0	100.0
Missing	System	1	14.3		
Total		7	100.0		

q3b Primary: Agriculture

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Selected	5	71.4	83.3	83.3
	Selected	1	14.3	16.7	100.0
	Total	6	85.7	100.0	
Missing	System	1	14.3		
Total		7	100.0		

q3c Primary: Over-the-Road Trucking

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Selected	4	57.1	66.7	66.7

	Selected	2	28.6	33.3	100.0
	Total	6	85.7	100.0	
Missing	System	1	14.3		
Total		7	100.0		

q3d Primary: Electrical Power Generation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Selected	4	57.1	66.7	66.7
	Selected	2	28.6	33.3	100.0
	Total	6	85.7	100.0	
Missing	System	1	14.3		
Total		7	100.0		

q3e Primary: Fleet Management

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Selected	6	85.7	100.0	100.0
Missing	System	1	14.3		
Total		7	100.0		

q3f Primary: Other

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Selected	3	42.9	50.0	50.0
	Selected	3	42.9	50.0	100.0
	Total	6	85.7	100.0	
Missing	System	1	14.3		
Total		7	100.0		

q3g Primary: Other specified

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		3	42.9	42.9	42.9
	dealer	1	14.3	14.3	57.1

	Diesel Engine Service and Parts	1	14.3	14.3	71.4
	Landfill	1	14.3	14.3	85.7
	OEM Distributor	1	14.3	14.3	100.0
	Total	7	100.0	100.0	

q4 Have one or more HEET grads

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	6	85.7	85.7	85.7
	No	1	14.3	14.3	100.0
	Total	7	100.0	100.0	

q5 Feel grad(s) prepared

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Unprepared	1	14.3	16.7	16.7
	Somewhat Prepared	3	42.9	50.0	66.7
	Very Prepared	2	28.6	33.3	100.0
	Total	6	85.7	100.0	
Missing	System	1	14.3		
Total		7	100.0		

q6a (HEQT 100) Trouble Shooting Strategies

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	To a Great Extent	7	100.0	100.0	100.0

q6b (HEQT 101) Maintenance Fundamentals

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat	2	28.6	28.6	28.6
	To a Great Extent	5	71.4	71.4	100.0
	Total	7	100.0	100.0	

q6c (HEQT 110) Electronics Fundamentals

		Frequency	Percent	Valid Percent	Cumulative Percent
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q6c (HEQT 110) Electronics Fundamentals

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	To a Great Extent	7	100.0	100.0	100.0

q6d (HEQT 120) Engine Technology

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	1	14.3	14.3	14.3
	Somewhat	1	14.3	14.3	28.6
	To a Great Extent	5	71.4	71.4	100.0
	Total	7	100.0	100.0	

q6e (HEQT 160) Fluid Power Fundamentals

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat	2	28.6	28.6	28.6
	To a Great Extent	5	71.4	71.4	100.0
	Total	7	100.0	100.0	

q6f (HEQT 193) Industry Internship

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	1	14.3	14.3	14.3
	Somewhat	3	42.9	42.9	57.1
	To a Great Extent	3	42.9	42.9	100.0
	Total	7	100.0	100.0	

q6g (HEQT 200) Planned Maintenance Systems

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	1	14.3	14.3	14.3
	Somewhat	3	42.9	42.9	57.1
	To a Great Extent	3	42.9	42.9	100.0
	Total	7	100.0	100.0	

q6h (HEQT 201) Transport Refrigeration Systems

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at All	2	28.6	28.6	28.6
	Very Little	1	14.3	14.3	42.9
	Somewhat	2	28.6	28.6	71.4
	To a Great Extent	2	28.6	28.6	100.0
	Total	7	100.0	100.0	

q6i (HEQT 210) Electrical Systems

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	To a Great Extent	7	100.0	100.0	100.0

q6j (HEQT 230) Diesel Fuel Systems Technology

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	1	14.3	14.3	14.3
	To a Great Extent	6	85.7	85.7	100.0
	Total	7	100.0	100.0	

q6k (HEQT 240) Brakes & Suspension Systems

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat	2	28.6	28.6	28.6
	To a Great Extent	5	71.4	71.4	100.0
	Total	7	100.0	100.0	

q6l (HEQT 270) Power Transfer Technology

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat	2	28.6	28.6	28.6
	To a Great Extent	5	71.4	71.4	100.0
	Total	7	100.0	100.0	

q6m (HEQT 271) Automatic Transmissions

		Frequency	Percent	Valid Percent	Cumulative Percent
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Valid	Very Little	1	14.3	14.3	14.3
	Somewhat	2	28.6	28.6	42.9
	To a Great Extent	4	57.1	57.1	100.0
	Total	7	100.0	100.0	

q6n (ENGL 150) English 1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat	3	42.9	42.9	42.9
	To a Great Extent	4	57.1	57.1	100.0
	Total	7	100.0	100.0	

q6o (ENGL 211) Industrial and Career Writing

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat	2	28.6	28.6	28.6
	To a Great Extent	5	71.4	71.4	100.0
	Total	7	100.0	100.0	

q6p (MATH 116) Intermed Alg and Num Trig

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat	5	71.4	71.4	71.4
	To a Great Extent	2	28.6	28.6	100.0
	Total	7	100.0	100.0	

q6q (PHYS 130) Concepts of Physics

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat	3	42.9	42.9	42.9
	To a Great Extent	4	57.1	57.1	100.0
	Total	7	100.0	100.0	

q6r (In General, 3 credits) Cultural Enrichment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	1	14.3	16.7	16.7
	Somewhat	3	42.9	50.0	66.7
	To a Great Extent	2	28.6	33.3	100.0
	Total	6	85.7	100.0	
Missing	System	1	14.3		
Total		7	100.0		

q6s (In General, 3 credits) Social Awareness

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	2	28.6	33.3	33.3
	Somewhat	1	14.3	16.7	50.0
	To a Great Extent	3	42.9	50.0	100.0
	Total	6	85.7	100.0	
Missing	System	1	14.3		
Total		7	100.0		

q7a (HSET 300) Applied Failure Analysis

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	1	14.3	14.3	14.3
	To a Great Extent	6	85.7	85.7	100.0
	Total	7	100.0	100.0	

q7b (HSET 302) Fleet Management

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	1	14.3	14.3	14.3
	Somewhat	1	14.3	14.3	28.6
	To a Great Extent	5	71.4	71.4	100.0
	Total	7	100.0	100.0	

q7c (HSET 393) Industry Internship

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat	3	42.9	42.9	42.9
	To a Great Extent	4	57.1	57.1	100.0
	Total	7	100.0	100.0	

q7d (HSET 403) Testing Systems and Analysis

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	1	14.3	14.3	14.3
	Somewhat	2	28.6	28.6	42.9
	To a Great Extent	4	57.1	57.1	100.0
	Total	7	100.0	100.0	

q7e (HSET 410) Interactive Electronic Controls

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	1	14.3	14.3	14.3
	Somewhat	2	28.6	28.6	42.9
	To a Great Extent	4	57.1	57.1	100.0
	Total	7	100.0	100.0	

q7f (HSET 460) Advanced Hydraulic Systems

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat	2	28.6	28.6	28.6
	To a Great Extent	5	71.4	71.4	100.0
	Total	7	100.0	100.0	

q7g (ACCT 201) Principles of Accounting

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	2	28.6	28.6	28.6
	Somewhat	3	42.9	42.9	71.4
	To a Great Extent	2	28.6	28.6	100.0

q7g (ACCT 201) Principles of Accounting

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	2	28.6	28.6	28.6
	Somewhat	3	42.9	42.9	71.4
	To a Great Extent	2	28.6	28.6	100.0
	Total	7	100.0	100.0	

q7h (CAHS 330) OSHA Laws and Regulations

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat	1	14.3	14.3	14.3
	To a Great Extent	6	85.7	85.7	100.0
	Total	7	100.0	100.0	

q7i (COMM 221) Small Group Decision Making

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat	3	42.9	42.9	42.9
	To a Great Extent	4	57.1	57.1	100.0
	Total	7	100.0	100.0	

q7j (ECON 221) Principles of Macroeconomics

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	2	28.6	28.6	28.6
	Somewhat	4	57.1	57.1	85.7
	To a Great Extent	1	14.3	14.3	100.0
	Total	7	100.0	100.0	

q7k (ENGL 311) Advanced Technical Writing

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat	4	57.1	57.1	57.1
	To a Great Extent	3	42.9	42.9	100.0
	Total	7	100.0	100.0	

q7l (MATH 126) Algebra & Analytic Trig

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	2	28.6	28.6	28.6
	Somewhat	4	57.1	57.1	85.7
	To a Great Extent	1	14.3	14.3	100.0
	Total	7	100.0	100.0	

q7m (MATL 240) Intro to Material Science

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	2	28.6	28.6	28.6
	Somewhat	3	42.9	42.9	71.4
	To a Great Extent	2	28.6	28.6	100.0
	Total	7	100.0	100.0	

q7n (MGMT 301) Applied Management

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	2	28.6	28.6	28.6
	Somewhat	3	42.9	42.9	71.4
	To a Great Extent	2	28.6	28.6	100.0
	Total	7	100.0	100.0	

q7o (PHYS 211) Introductory Physics 1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	1	14.3	14.3	14.3
	Somewhat	3	42.9	42.9	57.1
	To a Great Extent	3	42.9	42.9	100.0
	Total	7	100.0	100.0	

q7p (SURE 331) Ethics & Professionalism in Engineering & Tech

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat	3	42.9	42.9	42.9

	To a Great Extent	4	57.1	57.1	100.0
	Total	7	100.0	100.0	

q7q (3 credits of a 300/400 level class) Directed Elective

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	1	14.3	14.3	14.3
	Somewhat	5	71.4	71.4	85.7
	To a Great Extent	1	14.3	14.3	100.0
	Total	7	100.0	100.0	

q7r (In General, 6 credits) Cultural Enrichment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at All	1	14.3	14.3	14.3
	Very Little	2	28.6	28.6	42.9
	Somewhat	3	42.9	42.9	85.7
	To a Great Extent	1	14.3	14.3	100.0
	Total	7	100.0	100.0	

q7s (In General, 6 credits) Social Awareness

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Little	3	42.9	42.9	42.9
	Somewhat	3	42.9	42.9	85.7
	To a Great Extent	1	14.3	14.3	100.0
	Total	7	100.0	100.0	

q8a Students are well prepared to enter workforce

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Agree	4	57.1	57.1	57.1
	Strongly Agree	2	28.6	28.6	85.7
	Don't Know	1	14.3	14.3	100.0
	Total	7	100.0	100.0	

q8b Progs prepare students to enter industry better

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Agree	4	57.1	57.1	57.1
	Strongly Agree	3	42.9	42.9	100.0
	Total	7	100.0	100.0	

q8c Grads contribute as much as other grads in their first 6 months

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Agree	2	28.6	28.6	28.6
	Strongly Agree	4	57.1	57.1	85.7
	Don't Know	1	14.3	14.3	100.0
	Total	7	100.0	100.0	

q8d Progs provide a foundation for multiple career possibilities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Agree	2	28.6	28.6	28.6
	Strongly Agree	4	57.1	57.1	85.7
	Don't Know	1	14.3	14.3	100.0
	Total	7	100.0	100.0	

q8e Adequate placement assistance is provided to graduates

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Agree	2	28.6	28.6	28.6
	Strongly Agree	2	28.6	28.6	57.1
	Don't Know	3	42.9	42.9	100.0
	Total	7	100.0	100.0	

q9 Company experienced difficulty

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	3	42.9	42.9	42.9

	No	4	57.1	57.1	100.0
	Total	7	100.0	100.0	

q10 Best estimate describing the growth

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Average/steady	5	71.4	71.4	71.4
	Probable increase in staff	2	28.6	28.6	100.0
	Total	7	100.0	100.0	

q11 Familiar with the differences between AAS & BS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	5	71.4	71.4	71.4
	No	2	28.6	28.6	100.0
	Total	7	100.0	100.0	

q12 Type of degree prefer

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bachelor of Science in Heavy Equipment Service Engineering Technology	5	71.4	71.4	71.4
	No preference	2	28.6	28.6	100.0
	Total	7	100.0	100.0	

q13 Familiar with NATEF & AED accreditation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	5	71.4	71.4	71.4
	No	2	28.6	28.6	100.0
	Total	7	100.0	100.0	

q14 Additional prog specific comments

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		3	42.9	42.9	42.9
	Make sure everyone wear shirt and tie at job Fairs.	1	14.3	14.3	57.1

Need to add emissions training	1	14.3	14.3	71.4
The largest downfall that graduates seem to have is the lack of real trouble shooting and diagnostic skills and procedure	1	14.3	14.3	85.7
We have a inturn in the summer months and he has worked out great.	1	14.3	14.3	100.0
Total	7	100.0	100.0	

q15 Additional general comments

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	6	85.7	85.7	85.7
Personally I would like to see classroom projects done in a Customer Complaint/ Repair Order style	1	14.3	14.3	100.0
Total	7	100.0	100.0	

D. GRADUATING STUDENT EXIT SURVEY:

Graduating students are surveyed every year on an ongoing basis to obtain information regarding quality of instruction, relevance of courses and satisfaction with program outcomes based on their own expectations. The survey must seek student suggestions on ways to improve the effectiveness of the program and to enhance the fulfillment of their expectations. This survey is mandatory for all program graduates.

1) HEQT (A.A.S.) – GRADUATING STUDENT EXIT SURVEY

Please take a few minutes to fill out this survey about your activities after your graduation from Ferris State University. Your responses will help us improve our quality as well as provide employment information to prospective students. Your answers will be kept confidential; only statistical averages will be reported.

Q1 How well did Ferris State University prepare you for employment?

- Very Poorly
- Poorly
- Fair
- Well
- Very Well

Q2 Do you plan on staying in/returning to the State of Michigan?

- Yes (Skip to Q4)
- No
- Unsure at this time (Skip to Q4)

Q3 What is the *primary* reason you are planning to leave Michigan? (Please select only one.)

- Occupational opportunities
- Family/friends in another area
- Other Please specify:

Q4 Which of the following options best represents your current employment status?

- Part-time (less than 30 hours per week)
- Full-time (30 or more hours per week)
- Military Service (**Skip to Q16**)
- Full-time Homemaker (**Skip to Q16**)
- Unemployed, seeking employment (**Skip to Q16**)
- Unemployed, not seeking employment (**Skip to Q16**)

Q5 To what extent is your position related to your program of study/degree?

- Not related at all
- Somewhat related
- Highly related

Q6 How long did it take for you to find your job?

- Before graduation
- 0-3 months after graduation
- 4-6 months after graduation
- 7-9 months after graduation
- 10-12 months after graduation
- More than 1 year after graduation
- Still looking

Q7 How satisfied are you with your level of career development?

- Very dissatisfied
- Somewhat dissatisfied
- Somewhat satisfied
- Very satisfied**
- Too soon to tell

Q8 How satisfied are you with your rate of advancement?

- Very dissatisfied
- Somewhat dissatisfied
- Somewhat satisfied
- Very satisfied**
- Too soon to tell

Q9 What is your position?

Q10 What is the name of your employer/company?

Q11 Where is it? (Please give city and state)

Q12 Did you have internship experience at the company where you are employed?

- Yes, I did an internship at my current company.
- No, I didn't do an internship.
- Yes, I did an internship, but not at my current company

Q13 Are you self-employed?

- Yes
- No

Q14 What is the size of your employer/company?

- Less than 25 employees
- 26-50 employees
- 51-75 employees
- 76-100 employees
- 101-500 employees
- More than 500 employees

Data regarding your salary is used for statistical averages only and will be kept confidential.

Q15 What is your annual gross salary (before taxes and deductions and also excluding overtime and consultant work?)

Q16 If you had the opportunity to start college over, would you still CHOOSE TO ATTEND FERRIS STATE UNIVERSITY?

- Definitely no
- Probably no
- Probably yes
- Definitely yes

Q17 If you had the opportunity to start college over, would you still CHOOSE THE SAME PROGRAM OF STUDY?

- Definitely no
- Probably no
- Probably yes
- Definitely yes

Q18 Since graduating from Ferris State University, have you attended another college OR returned to Ferris State University for additional classes

- I have not attended college (**Skip to Q24**)
- I have attended another institution (**Skip to Q 24**)
- I have attended Ferris State University

Q19 Why did you decide to return to Ferris State University to take additional courses? (Please select one then skip to Q 21)

- Taking courses for personal enrichment
- Taking courses to gain/enhance skills to perform my current job
- Taking courses to gain skills to advance in my current job
- Taking courses to gain skills to find a job in the same field as my degree/certificate
- Taking course to gain skills to find a job in a field different from my degree/certificate
- Other Please specify.

Q 20 What institution have you most recently attended?

Q 21 What is your program/area of study at this institution?

Q 22 What is your approximate overall GPA? Please write out your GPA, e.g., 3.0.

Q 23 What degree are you currently pursuing?

- None-not attending classes for a degree
- Certificate
- Associates
- Bachelors
- Masters
- Ph.D. or other terminal degree

Q 24 Which of the following best represents your future educational plans?

- I have no plans to continue my education (**Skip to Q 28**)
- I plan to attend non-credit professional development courses/workshops/seminars (**Skip to Q 28**)
- I plan to attend a 2-year institution
- I plan to attend a 4-year institution

Q 25 If you plan to continue your education, when do you think you will begin taking additional classes?

- In the next 6 months
- Within the next year
- Within the next 2-4 years
- Within the next 5 years

Q 26 What institution do you think you will most likely attend?

Q 27 When you decide to attend school again, what will be your likely area of study? Please specify.

Q 28 Please utilize this space to share any additional comments or thoughts.

2) HEQT (A.A.S.) – GRADUATING STUDENT EXIT SURVEY RESULTS

Frequencies

Prepared by: Institutional Research & Testing, 05/10

	N		Mean	Median	Std. Deviation
	Valid	Missing			
q1 How well prepared for employment	5	0	2.00	2.00	.707
q2 Do you plan on staying in/returning to MI	5	0	1.40	1.00	.894
q3 Primary reason planning to leave MI	0	5			
q3a Primary Other Specified	5	0			
q4 Best represents current employmt	5	0	3.00	2.00	1.871
q5 Extent position related to your program	3	2	3.00	3.00	.000
q6 How long did it take to find your job	3	2	1.00	1.00	.000
q7 How satisfied with career development	3	2	3.00	2.00	1.732
q8 How satisfied with rate of advancement	3	2	3.00	3.00	.000
q9 Position	5	0			
q10 Name of your employer/company	5	0			
q11 Where is it	5	0			
q12 Internship experience at the company	3	2	1.67	2.00	.577
q13 Self-employed	3	2	1.67	2.00	.577
q14 Size of your employer/company	3	2	1.33	1.00	.577
q15 Annual gross salary	5	0			

q16 Choose FSU again	5	0	1.40	1.00	.548
q17 Choose same program	5	0	2.80	3.00	.837
q18 Attended FSU/other institution since grad	5	0	1.40	1.00	.894
q19 Decide on FSU for add'l classes	1	4	2.00	2.00	
q19a Decided Other Specified	5	0			
q20 Institution most recently attended	5	0			
q21 Program/area of study	5	0			
q22 Approximate overall GPA	5	0			
q23 Degree currently pursuing	1	4	3.00	3.00	
q24 Future education plans	4	1	2.25	2.00	1.500
q25 When will you start	2	3	2.00	2.00	1.414
q26 Institution will attend	5	0			
q27 Likely area of study	5	0			
q28 Additional comments	5	0			

Frequency Table

q1 How well prepared for employment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Poorly	1	20.0	20.0	20.0
	Poorly	3	60.0	60.0	80.0
	Fair	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

q2 Do you plan on staying in/returning to MI

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	4	80.0	80.0	80.0
	Unsure at this time	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

q3 Primary reason planning to leave MI

		Frequency	Percent
Missing	System	5	100.0

q3a Primary Other Specified

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		5	100.0	100.0	100.0

q4 Best represents current employmt

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Part-time (less than 30 hrs/wk)	1	20.0	20.0	20.0
	Full-time (30 or more hrs/wk)	2	40.0	40.0	60.0
	Unemployed, seeking employment	2	40.0	40.0	100.0
	Total	5	100.0	100.0	

q5 Extent position related to your program

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Highly related	3	60.0	100.0	100.0
Missing	System	2	40.0		
Total		5	100.0		

q6 How long did it take to find your job

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Before graduation	3	60.0	100.0	100.0
Missing	System	2	40.0		
Total		5	100.0		

q7 How satisfied with career development

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Dissatisfied	2	40.0	66.7	66.7
	Too soon to tell	1	20.0	33.3	100.0
	Total	3	60.0	100.0	
Missing	System	2	40.0		
Total		5	100.0		

q8 How satisfied with rate of advancement

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	3	60.0	100.0	100.0
Missing	System	2	40.0		
Total		5	100.0		

q9 Position

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		3	60.0	60.0	60.0
	full time mechanic	1	20.0	20.0	80.0
	technician/assistant	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

q10 Name of your employer/company

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		3	60.0	60.0	60.0
	Cortis Bros. Trucking and Excavating Inc.	1	20.0	20.0	80.0
	Exit 16 Fleet Repair	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

q11 Where is it

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		3	60.0	60.0	60.0
	Coopersville, MI	1	20.0	20.0	80.0
	Marine City, MI	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

q12 Internship experience at the company

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes, I did an internship at my current company	1	20.0	33.3	33.3
	No, I didn't do an internship	2	40.0	66.7	100.0
	Total	3	60.0	100.0	
Missing	System	2	40.0		
Total		5	100.0		

q13 Self-employed

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	1	20.0	33.3	33.3
	No	2	40.0	66.7	100.0
	Total	3	60.0	100.0	
Missing	System	2	40.0		
Total		5	100.0		

q14 Size of your employer/company

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 25 employees	2	40.0	66.7	66.7
	26-50 employees	1	20.0	33.3	100.0
	Total	3	60.0	100.0	
Missing	System	2	40.0		
Total		5	100.0		

q15 Annual gross salary

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		3	60.0	60.0	60.0
	???????????	1	20.0	20.0	80.0
	30,000	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

q16 Choose FSU again

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Definitely no	3	60.0	60.0	60.0
	Probably no	2	40.0	40.0	100.0
	Total	5	100.0	100.0	

q17 Choose same program

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Probably no	2	40.0	40.0	40.0
	Probably yes	2	40.0	40.0	80.0
	Definitely yes	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

q18 Attended FSU/other institution since grad

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I have not attended college	4	80.0	80.0	80.0
	I have attended Ferris State University	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

q19 Decide on FSU for add'l classes

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Taking courses to gain/enhance skills to perform my current job	1	20.0	100.0	100.0
Missing	System	4	80.0		
Total		5	100.0		

q19a Decided Other Specified

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		5	100.0	100.0	100.0

q20 Institution most recently attended

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		5	100.0	100.0	100.0

q21 Program/area of study

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		5	100.0	100.0	100.0

q22 Approximate overall GPA

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		5	100.0	100.0	100.0

q23 Degree currently pursuing

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Associates	1	20.0	100.0	100.0
Missing	System	4	80.0		
Total		5	100.0		

q24 Future education plans

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I have no plans to continue my education	2	40.0	50.0	50.0
	I plan to attend a 2-year institution	1	20.0	25.0	75.0
	I plan to attend a 4-year institution	1	20.0	25.0	100.0
	Total	4	80.0	100.0	
Missing	System	1	20.0		
Total		5	100.0		

q25 When will you start

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	In the next 6 months	1	20.0	50.0	50.0
	Within the next 2-4 years	1	20.0	50.0	100.0
	Total	2	40.0	100.0	
Missing	System	3	60.0		
Total		5	100.0		

q26 Institution will attend

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		3	60.0	60.0	60.0
	anything but ferris	1	20.0	20.0	80.0
	Ferris, Unfortunately. Ive already done two, so it would be a waste to start a new degree at another school.	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

q27 Likely area of study

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		3	60.0	60.0	60.0
	Automotive or some other kind of engineer	1	20.0	20.0	80.0
	management	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

q28 Additional comments

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		2	40.0	40.0	40.0
	fuck ferris	1	20.0	20.0	60.0

I think that the heavy equipment program needs some revamping and needs to actually teach us about turning wrench and not so much political crap.	1	20.0	20.0	80.0
i was very dissatisfied with the heavy equipment program	1	20.0	20.0	100.0
Total	5	100.0	100.0	

3) HSET (B.S.) – GRADUATING STUDENT EXIT SURVEY

4) HSET (B.S.) – GRADUATING STUDENT EXIT SURVEY RESULTS

There were no responses to the Exit Survey received from the graduating students and Institutional Research and Testing did not forward a copy of the survey for inclusion in this report.

E. STUDENT PROGRAM EVALUATION:

Current students are surveyed to obtain information regarding quality of instruction, relevance of courses and satisfaction with program outcomes based on their own expectations. The survey must seek student suggestions on ways to improve the effectiveness of the program and to enhance the fulfillment of their expectations. This survey should be conducted during the year before the PRP report is submitted.

1) HEQT (A.A.S.) – CURRENT STUDENT SURVEY

Please complete the following questions by placing an “X” in the appropriate box, using the scale below. Your input is key to the continued success of the Heavy Equipment Technology (HEQT) program at Ferris State University.

1=poor, 2=below expectations, 3=acceptable, 4=good, 5=excellent, ?=do not know

1 2 3 4 5 ?

1. HEQT Courses are:

Available and conveniently located
Based on realistic prerequisites
Available at a moderate cost

2. Written objectives for HEQT courses are:

Are available to students
Describe what you will learn in the course
Are used by the instructor to keep you aware of your progress

3. Teaching methods, procedures and course content:

Meet your occupational needs, interests and objectives
Provide supervised practice for developing job skills

4. Related course, such as English, Math and Sciences are:

Pertinent to occupational instruction
Current and meaningful to you

5. Practical work experience (lab) in the HEQT program is:

Readily available at convenient locations
Readily available to both day and evening students
Coordinated with classroom instruction
Coordinated with employer supervision

6. Career planning information:

- Meets your needs and interests
- Helps you plan your progress
- Helps you make career decisions and choices
- Helps you understand your rights and responsibilities as an employee
- Helps you evaluate job opportunities in relation to salary, benefits and conditions of employment
- Is provided by knowledgeable, interested staff
- Explains non-traditional opportunities for both sexes

7. Job success information of former students in your occupational program:

- Is provided to help you make career decisions
- Indicates how many job opportunities there are in your occupation
- Identifies where these job opportunities are located
- Tells about job advancement opportunities

8.Placement services are available to:

- Help you find employment opportunities
- Prepare you to apply for a job

9. HEQT instructors

- Know the subject matter and occupational requirements
- Are available to provide help when you need it
- Provide instruction so it is interesting and understandable

10. Instructional support services, such as tutoring, lab assistance are:

- Available to meet your needs and interests
- Provided by knowledgeable, interested staff

11. Instructional lecture and laboratory facilities:

- Provide adequate lighting, ventilation, heating, power and other utilities
- Include enough workstations for the number of students enrolled
- Are safe, functional and well maintained
- Are available on an equal basis for all students

12. Instructional equipment is:

- Current and representative of industry
- In sufficient quantities to avoid long delays in use
- Safe and in good condition

13. Instructional materials, e.g., textbooks, reference books, supplies are:

- Available and conveniently located for use as needed
- Current and meaningful to the subject
- Not biased toward "traditional" sex roles
- Available at a reasonable cost

Comments: _____

Thank You!!

2) HEQT (A.A.S.) – CURRENT STUDENT SURVEY RESULTS

Frequencies

Prepared by: Institutional Research & Testing, 05/10

	N		Mean	Median	Std. Deviation
	Valid	Missing			
q1a Available and conveniently located	14	0	3.79	4.00	.426
q1b Based on realistic prerequisites	14	0	2.79	3.00	.893
q1c Available at a moderate cost	13	1	1.85	2.00	.801
q2a Are available to students	14	0	2.93	3.00	.997
q2b Describe what you will learn in the course	14	0	2.64	3.00	1.082
q2c Are used by the instructor	14	0	2.57	2.50	1.222
q3a Meet your occupational needs	14	0	2.00	2.00	1.109
q3b Meet your occupational interests	14	0	2.64	2.50	1.082
q3c Meet your occupational objectives	14	0	2.00	2.00	1.038
q3d Provide supervised practice	14	0	2.43	2.00	1.089
q4a Pertinent to occupational instruction	14	0	2.50	2.50	.941
q4b Current and meaningful to you	14	0	2.43	2.00	1.222
q5a Readily available at convenient locations	14	0	2.86	3.00	1.027
q5b Readily available to both day and evening students	14	0	2.21	2.00	.975
q5c Coordinated with classroom instruction	14	0	2.36	2.50	.929
q5d Coordinated with employer supervision	14	0	2.00	2.00	1.109
q6a Meets your needs	14	0	2.57	3.00	1.016
q6b Meets your interests	14	0	2.71	3.00	.994
q6c Helps you plan your progress	14	0	2.79	3.00	1.122
q6d Helps you make career decisions/choices	14	0	2.79	3.00	.975
q6e Helps you understand your rights/responsibilities	14	0	2.79	3.00	.893
q6f Helps you evaluate job opportunities	14	0	2.71	3.00	1.139
q6g Is provided by knowledgeable, interested staff	14	0	2.86	3.00	1.167
q6h Explains non-traditional opportunities	14	0	3.36	3.00	1.393
q7a Is provided to help you make career decisions	14	0	3.07	3.00	1.269
q7b Indicates how many job opportunities there are	14	0	3.07	3.00	1.328

q7c Identifies where these job opportunities are located	14	0	3.14	3.00	1.406
q7d Tells about job advancement opportunities	14	0	3.14	3.00	1.292
q8a Help you find employment opportunities	14	0	2.21	2.50	1.188
q8b Prepare you to apply for a job	14	0	2.64	3.00	1.277
q9a Know the subject matter	14	0	2.71	3.00	1.069
q9b Know the occupational requirements	14	0	2.50	2.00	1.160
q9c Are available to provide help when you need it	14	0	2.71	2.50	.994
q9d Provide instruction so it is interesting	14	0	2.14	2.00	1.167
q9e Provide instruction so it is understandable	14	0	2.36	3.00	1.082
q10a Available to meet your needs	14	0	2.50	2.00	.941
q10b Available to meet your interests	14	0	2.71	3.00	.825
q10c Provided by knowledgeable, interested staff	14	0	2.71	3.00	1.069
q11a Provide adequate utilities	14	0	3.57	4.00	.938
q11b Include enough workstations	14	0	3.07	4.00	1.269
q11c Are safe, functional and well maintained	14	0	3.14	3.50	1.027
q11d Are available on an equal basis for all students	14	0	2.93	3.50	1.269
q12a Current and representative of industry	14	0	2.00	2.00	.877
q12b In sufficient quantities to avoid long delays in use	14	0	2.07	2.00	.829
q12c Safe and in good condition	14	0	2.50	3.00	1.160
q13a Available and conveniently located for use as needed	14	0	2.79	3.00	.699
q13b Current and meaningful to the subject	14	0	3.00	3.00	.961
q13c Not biased toward "traditional" sex roles	14	0	3.93	4.00	1.141
q13d Available at a reasonable cost	14	0	1.64	1.00	.842
q14 Additional comments	14	0			

Frequency Table

q1a Available and conveniently located

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	3	21.4	21.4	21.4
	Very Satisfied	11	78.6	78.6	100.0
	Total	14	100.0	100.0	

q1b Based on realistic prerequisites

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	2	14.3	14.3	14.3
	Somewhat Dissatisfied	1	7.1	7.1	21.4
	Somewhat Satisfied	9	64.3	64.3	85.7
	Very Satisfied	2	14.3	14.3	100.0
	Total	14	100.0	100.0	

q1c Available at a moderate cost

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	5	35.7	38.5	38.5
	Somewhat Dissatisfied	5	35.7	38.5	76.9
	Somewhat Satisfied	3	21.4	23.1	100.0
	Total	13	92.9	100.0	
Missing	System	1	7.1		
Total		14	100.0		

q2a Are available to students

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	7.1	7.1	7.1
	Somewhat Dissatisfied	4	28.6	28.6	35.7
	Somewhat Satisfied	4	28.6	28.6	64.3
	Very Satisfied	5	35.7	35.7	100.0
	Total	14	100.0	100.0	

q2b Describe what you will learn in the course

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	3	21.4	21.4	21.4
	Somewhat Dissatisfied	2	14.3	14.3	35.7
	Somewhat Satisfied	6	42.9	42.9	78.6
	Very Satisfied	3	21.4	21.4	100.0
	Total	14	100.0	100.0	

q2c Are used by the instructor

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	3	21.4	21.4	21.4
	Somewhat Dissatisfied	4	28.6	28.6	50.0
	Somewhat Satisfied	4	28.6	28.6	78.6
	Very Satisfied	2	14.3	14.3	92.9
	Don't Know	1	7.1	7.1	100.0
	Total	14	100.0	100.0	

q3a Meet your occupational needs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	6	42.9	42.9	42.9
	Somewhat Dissatisfied	4	28.6	28.6	71.4
	Somewhat Satisfied	2	14.3	14.3	85.7
	Very Satisfied	2	14.3	14.3	100.0
	Total	14	100.0	100.0	

q3b Meet your occupational interests

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	2	14.3	14.3	14.3
	Somewhat Dissatisfied	5	35.7	35.7	50.0
	Somewhat Satisfied	3	21.4	21.4	71.4
	Very Satisfied	4	28.6	28.6	100.0

q3b Meet your occupational interests

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	2	14.3	14.3	14.3
	Somewhat Dissatisfied	5	35.7	35.7	50.0
	Somewhat Satisfied	3	21.4	21.4	71.4
	Very Satisfied	4	28.6	28.6	100.0
	Total	14	100.0	100.0	

q3c Meet your occupational objectives

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	5	35.7	35.7	35.7
	Somewhat Dissatisfied	6	42.9	42.9	78.6
	Somewhat Satisfied	1	7.1	7.1	85.7
	Very Satisfied	2	14.3	14.3	100.0
	Total	14	100.0	100.0	

q3d Provide supervised practice

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	3	21.4	21.4	21.4
	Somewhat Dissatisfied	5	35.7	35.7	57.1
	Somewhat Satisfied	3	21.4	21.4	78.6
	Very Satisfied	3	21.4	21.4	100.0
	Total	14	100.0	100.0	

q4a Pertinent to occupational instruction

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	2	14.3	14.3	14.3
	Somewhat Dissatisfied	5	35.7	35.7	50.0
	Somewhat Satisfied	5	35.7	35.7	85.7
	Very Satisfied	2	14.3	14.3	100.0
	Total	14	100.0	100.0	

q4b Current and meaningful to you

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	3	21.4	21.4	21.4
	Somewhat Dissatisfied	6	42.9	42.9	64.3
	Somewhat Satisfied	2	14.3	14.3	78.6
	Very Satisfied	2	14.3	14.3	92.9
	Don't Know	1	7.1	7.1	100.0
	Total	14	100.0	100.0	

q5a Readily available at convenient locations

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	7.1	7.1	7.1
	Somewhat Dissatisfied	5	35.7	35.7	42.9
	Somewhat Satisfied	3	21.4	21.4	64.3
	Very Satisfied	5	35.7	35.7	100.0
	Total	14	100.0	100.0	

q5b Readily available to both day and evening students

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	3	21.4	21.4	21.4
	Somewhat Dissatisfied	7	50.0	50.0	71.4
	Somewhat Satisfied	2	14.3	14.3	85.7
	Very Satisfied	2	14.3	14.3	100.0
	Total	14	100.0	100.0	

q5c Coordinated with classroom instruction

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	3	21.4	21.4	21.4
	Somewhat Dissatisfied	4	28.6	28.6	50.0
	Somewhat Satisfied	6	42.9	42.9	92.9
	Very Satisfied	1	7.1	7.1	100.0

q5c Coordinated with classroom instruction

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	3	21.4	21.4	21.4
	Somewhat Dissatisfied	4	28.6	28.6	50.0
	Somewhat Satisfied	6	42.9	42.9	92.9
	Very Satisfied	1	7.1	7.1	100.0
	Total	14	100.0	100.0	

q5d Coordinated with employer supervision

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	5	35.7	35.7	35.7
	Somewhat Dissatisfied	6	42.9	42.9	78.6
	Somewhat Satisfied	2	14.3	14.3	92.9
	Don't Know	1	7.1	7.1	100.0
	Total	14	100.0	100.0	

q6a Meets your needs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	3	21.4	21.4	21.4
	Somewhat Dissatisfied	2	14.3	14.3	35.7
	Somewhat Satisfied	7	50.0	50.0	85.7
	Very Satisfied	2	14.3	14.3	100.0
	Total	14	100.0	100.0	

q6b Meets your interests

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	2	14.3	14.3	14.3
	Somewhat Dissatisfied	3	21.4	21.4	35.7
	Somewhat Satisfied	6	42.9	42.9	78.6
	Very Satisfied	3	21.4	21.4	100.0

q6b Meets your interests

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	2	14.3	14.3	14.3
	Somewhat Dissatisfied	3	21.4	21.4	35.7
	Somewhat Satisfied	6	42.9	42.9	78.6
	Very Satisfied	3	21.4	21.4	100.0
	Total	14	100.0	100.0	

q6c Helps you plan your progress

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	2	14.3	14.3	14.3
	Somewhat Dissatisfied	3	21.4	21.4	35.7
	Somewhat Satisfied	6	42.9	42.9	78.6
	Very Satisfied	2	14.3	14.3	92.9
	Don't Know	1	7.1	7.1	100.0
	Total	14	100.0	100.0	

q6d Helps you make career decisions/choices

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	2	14.3	14.3	14.3
	Somewhat Dissatisfied	2	14.3	14.3	28.6
	Somewhat Satisfied	7	50.0	50.0	78.6
	Very Satisfied	3	21.4	21.4	100.0
	Total	14	100.0	100.0	

q6e Helps you understand your rights/responsibilities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	2	14.3	14.3	14.3
	Somewhat Dissatisfied	1	7.1	7.1	21.4
	Somewhat Satisfied	9	64.3	64.3	85.7
	Very Satisfied	2	14.3	14.3	100.0
	Total	14	100.0	100.0	

q6f Helps you evaluate job opportunities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	2	14.3	14.3	14.3
	Somewhat Dissatisfied	4	28.6	28.6	42.9
	Somewhat Satisfied	5	35.7	35.7	78.6
	Very Satisfied	2	14.3	14.3	92.9
	Don't Know	1	7.1	7.1	100.0
	Total	14	100.0	100.0	

q6g Is provided by knowledgeable, interested staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	2	14.3	14.3	14.3
	Somewhat Dissatisfied	3	21.4	21.4	35.7
	Somewhat Satisfied	5	35.7	35.7	71.4
	Very Satisfied	3	21.4	21.4	92.9
	Don't Know	1	7.1	7.1	100.0
	Total	14	100.0	100.0	

q6h Explains non-traditional opportunities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	2	14.3	14.3	14.3
	Somewhat Dissatisfied	1	7.1	7.1	21.4
	Somewhat Satisfied	5	35.7	35.7	57.1
	Very Satisfied	2	14.3	14.3	71.4
	Don't Know	4	28.6	28.6	100.0
	Total	14	100.0	100.0	

q7a Is provided to help you make career decisions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	2	14.3	14.3	14.3
	Somewhat Dissatisfied	2	14.3	14.3	28.6
	Somewhat Satisfied	5	35.7	35.7	64.3

	Very Satisfied	3	21.4	21.4	85.7
	Don't Know	2	14.3	14.3	100.0
	Total	14	100.0	100.0	

q7b Indicates how many job opportunities there are

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	2	14.3	14.3	14.3
	Somewhat Dissatisfied	3	21.4	21.4	35.7
	Somewhat Satisfied	3	21.4	21.4	57.1
	Very Satisfied	4	28.6	28.6	85.7
	Don't Know	2	14.3	14.3	100.0
	Total	14	100.0	100.0	

q7c Identifies where these job opportunities are located

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	2	14.3	14.3	14.3
	Somewhat Dissatisfied	3	21.4	21.4	35.7
	Somewhat Satisfied	3	21.4	21.4	57.1
	Very Satisfied	3	21.4	21.4	78.6
	Don't Know	3	21.4	21.4	100.0
	Total	14	100.0	100.0	

q7d Tells about job advancement opportunities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	2	14.3	14.3	14.3
	Somewhat Dissatisfied	2	14.3	14.3	28.6
	Somewhat Satisfied	4	28.6	28.6	57.1
	Very Satisfied	4	28.6	28.6	85.7
	Don't Know	2	14.3	14.3	100.0
	Total	14	100.0	100.0	

q8a Help you find employment opportunities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	6	42.9	42.9	42.9
	Somewhat Dissatisfied	1	7.1	7.1	50.0
	Somewhat Satisfied	5	35.7	35.7	85.7
	Very Satisfied	2	14.3	14.3	100.0
	Total	14	100.0	100.0	

q8b Prepare you to apply for a job

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	4	28.6	28.6	28.6
	Somewhat Dissatisfied	1	7.1	7.1	35.7
	Somewhat Satisfied	6	42.9	42.9	78.6
	Very Satisfied	2	14.3	14.3	92.9
	Don't Know	1	7.1	7.1	100.0
	Total	14	100.0	100.0	

q9a Know the subject matter

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	2	14.3	14.3	14.3
	Somewhat Dissatisfied	4	28.6	28.6	42.9
	Somewhat Satisfied	4	28.6	28.6	71.4
	Very Satisfied	4	28.6	28.6	100.0
	Total	14	100.0	100.0	

q9b Know the occupational requirements

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	3	21.4	21.4	21.4
	Somewhat Dissatisfied	5	35.7	35.7	57.1
	Somewhat Satisfied	2	14.3	14.3	71.4
	Very Satisfied	4	28.6	28.6	100.0
	Total	14	100.0	100.0	

q9c Are available to provide help when you need it

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	7.1	7.1	7.1
	Somewhat Dissatisfied	6	42.9	42.9	50.0
	Somewhat Satisfied	3	21.4	21.4	71.4
	Very Satisfied	4	28.6	28.6	100.0
	Total	14	100.0	100.0	

q9d Provide instruction so it is interesting

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	6	42.9	42.9	42.9
	Somewhat Dissatisfied	2	14.3	14.3	57.1
	Somewhat Satisfied	4	28.6	28.6	85.7
	Very Satisfied	2	14.3	14.3	100.0
	Total	14	100.0	100.0	

q9e Provide instruction so it is understandable

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	5	35.7	35.7	35.7
	Somewhat Satisfied	8	57.1	57.1	92.9
	Very Satisfied	1	7.1	7.1	100.0
	Total	14	100.0	100.0	

q10a Available to meet your needs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	7.1	7.1	7.1
	Somewhat Dissatisfied	7	50.0	50.0	57.1
	Somewhat Satisfied	5	35.7	35.7	92.9
	Don't Know	1	7.1	7.1	100.0
	Total	14	100.0	100.0	

q10b Available to meet your interests

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Dissatisfied	6	42.9	42.9	42.9
	Somewhat Satisfied	7	50.0	50.0	92.9
	Don't Know	1	7.1	7.1	100.0
	Total	14	100.0	100.0	

q10c Provided by knowledgeable, interested staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	2	14.3	14.3	14.3
	Somewhat Dissatisfied	3	21.4	21.4	35.7
	Somewhat Satisfied	7	50.0	50.0	85.7
	Very Satisfied	1	7.1	7.1	92.9
	Don't Know	1	7.1	7.1	100.0
	Total	14	100.0	100.0	

q11a Provide adequate utilities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	7.1	7.1	7.1
	Somewhat Dissatisfied	1	7.1	7.1	14.3
	Somewhat Satisfied	1	7.1	7.1	21.4
	Very Satisfied	11	78.6	78.6	100.0
	Total	14	100.0	100.0	

q11b Include enough workstations

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	3	21.4	21.4	21.4
	Somewhat Dissatisfied	1	7.1	7.1	28.6
	Somewhat Satisfied	2	14.3	14.3	42.9
	Very Satisfied	8	57.1	57.1	100.0
	Total	14	100.0	100.0	

q11c Are safe, functional and well maintained

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	7.1	7.1	7.1
	Somewhat Dissatisfied	3	21.4	21.4	28.6
	Somewhat Satisfied	3	21.4	21.4	50.0
	Very Satisfied	7	50.0	50.0	100.0
	Total	14	100.0	100.0	

q11d Are available on an equal basis for all students

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	3	21.4	21.4	21.4
	Somewhat Dissatisfied	2	14.3	14.3	35.7
	Somewhat Satisfied	2	14.3	14.3	50.0
	Very Satisfied	7	50.0	50.0	100.0
	Total	14	100.0	100.0	

q12a Current and representative of industry

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	5	35.7	35.7	35.7
	Somewhat Dissatisfied	4	28.6	28.6	64.3
	Somewhat Satisfied	5	35.7	35.7	100.0
	Total	14	100.0	100.0	

q12b In sufficient quantities to avoid long delays in use

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	4	28.6	28.6	28.6
	Somewhat Dissatisfied	5	35.7	35.7	64.3
	Somewhat Satisfied	5	35.7	35.7	100.0
	Total	14	100.0	100.0	

q12c Safe and in good condition

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	4	28.6	28.6	28.6
	Somewhat Dissatisfied	2	14.3	14.3	42.9
	Somewhat Satisfied	5	35.7	35.7	78.6
	Very Satisfied	3	21.4	21.4	100.0
	Total	14	100.0	100.0	

q13a Available and conveniently located for use as needed

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	7.1	7.1	7.1
	Somewhat Dissatisfied	2	14.3	14.3	21.4
	Somewhat Satisfied	10	71.4	71.4	92.9
	Very Satisfied	1	7.1	7.1	100.0
	Total	14	100.0	100.0	

q13b Current and meaningful to the subject

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	7.1	7.1	7.1
	Somewhat Dissatisfied	3	21.4	21.4	28.6
	Somewhat Satisfied	5	35.7	35.7	64.3
	Very Satisfied	5	35.7	35.7	100.0
	Total	14	100.0	100.0	

q13c Not biased toward "traditional" sex roles

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	7.1	7.1	7.1
	Somewhat Satisfied	3	21.4	21.4	28.6
	Very Satisfied	5	35.7	35.7	64.3
	Don't Know	5	35.7	35.7	100.0
	Total	14	100.0	100.0	

q13d Available at a reasonable cost

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	8	57.1	57.1	57.1
	Somewhat Dissatisfied	3	21.4	21.4	78.6
	Somewhat Satisfied	3	21.4	21.4	100.0
	Total	14	100.0	100.0	

q14 Additional comments

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		9	64.3	64.3	64.3
	heavy equipment program may be one of the best in the nation but i was very dis-satisfied. i came here to learn about Ag equipment and maybe some commercial vehicles and came to find no Ag equipment available to learn things on. the whole first year of this program was pretty much a waste of time to me with classes like troubleshooting and maintenance fundamentals, i learned practically nothing. the second year i learned quite a bit but i made a mistake and was told that i will never be a mechanic, that i should look into being a parts guy instead and i was very offended. i was also told by other students that the professor was telling other students about the mistake made which made me very angry. i almost was going to transfer next year because i was so angry, but after finding out that the second year is the only year i had to put up with the professor, i decided to stick it out for two more years. also i was very unhappy with the fact that the students had to spend two full labs a semester moving things to work on in and out of trailers, because that i supposed to be what the maintenance guy, Greg, is supposed to do, but instead he just sits on the computer all day, if he's even there. our tuition dollars shouldn't pay for a maintenance guy that doesn't do anything. all in all i was very dissatisfied, i wish i would have went to UTI or Wyotech for two years and then transfered to ferris, at least there i could have worked on some Ag equipment.	1	7.1	7.1	71.4

<p>labs are all table top and work on real vehicles is rare. -We are told that we must have a certain textbook and then never us it. -The hydraulics lab is a 4 credit class but the 2 lectures are 30 minutes- 45 minutes each and the lab is always under an hour. The lectures consist of watching a power point produced by a hydraulics company. The images are too small to see and the content goes too fast. So far we have had 2 tests and 2 homework assignments. This class was a waste of over a grand; I will not be at all qualified to repair any piece of equipment by May. I would heve been better off buying a beginner hydraulics book and teaching myself. - At the beginning of the fall semester I was given the impression that I must have every tool on the tool list. I spent \$4000 on tools and never once used them the whole year. I wish someone would have told me that a baic mechanics set of tools would have suffice for the entire program-something I learned later. -The program is portrayed to be very hands on, with real world experience and it is not.</p>	1	7.1	7.1	78.6
<p>Labs have a three hour time slot but only use one hour of that time Not sure why I have to pay ferris money to do an internship that has nothing to do with them. The internship is four credit hours and for me that is over two thousand dollars</p>	1	7.1	7.1	85.7
<p>Overall a great program but it would be nice if it wasnt so expensive</p>	1	7.1	7.1	92.9
<p>The course material is out of date and needs to be revised!</p>	1	7.1	7.1	100.0
<p>Total</p>	14	100.0	100.0	

3) HSET (B.S.) – CURRENT STUDENT EXIT SURVEY

Please complete the following questions by placing an “X” in the appropriate box, using the scale below. Your input is key to the continued success of the Heavy Equipment Technology (HEQT) program at Ferris State University.

1=poor, 2=below expectations, 3=acceptable, 4=good, 5=excellent, ?=do not know

1 2 3 4 5 ?

1. HSET courses are:

Available and conveniently located
Based on realistic prerequisites
Available at a moderate cost

2. Written objectives for HSET courses are:

Are available to students
Describe what you will learn in the course
Are used by the instructor to keep you aware of your progress

3. Teaching methods, procedures and course content:

Meet your occupational needs, interests and objectives
Provide supervised practice for developing job skills

4. Related course, such as English, Math and Sciences are:

Pertinent to occupational instruction
Current and meaningful to you

5. Practical work experience (lab) in the HSET program is:

Readily available at convenient locations
Readily available to both day and evening students
Coordinated with classroom instruction
Coordinated with employer supervision

6. Career planning information:

Meets your needs and interests
Helps you plan your progress
Helps you make career decisions and choices
Helps you understand your rights and responsibilities as an employee
Helps you evaluate job opportunities in relation to salary, benefits and conditions of employment
Is provided by knowledgeable, interested staff
Explains non-traditional opportunities for both sexes

7. Job success information of former students in your occupational program:

Is provided to help you make career decisions
Indicates how many job opportunities there are in your occupation
Identifies where these job opportunities are located
Tells about job advancement opportunities

8. Placement services are available to:

Help you find employment opportunities
Prepare you to apply for a job

9. HSET instructors

Know the subject matter and occupational requirements
Are available to provide help when you need it
Provide instruction so it is interesting and understandable

10. Instructional support services, such as tutoring, lab assistance are:

Available to meet your needs and interests
Provided by knowledgeable, interested staff

11. Instructional lecture and laboratory facilities:

Provide adequate lighting, ventilation, heating, power and other utilities
Include enough workstations for the number of students enrolled
Are safe, functional and well maintained
Are available on an equal basis for all students

12. Instructional equipment is:

Current and representative of industry
In sufficient quantities to avoid long delays in use
Safe and in good condition

13. Instructional materials, e.g., textbooks, reference books, supplies are:

Available and conveniently located for use as needed
Current and meaningful to the subject

Not biased toward "traditional" sex roles
Available at a reasonable cost

Comments: _____

Thank You!!

4) HSET (B.S.) PROGRAM EVALUATION – STUDENT RESULTS

Frequencies Prepared by: Institutional Research & Testing, 05/10

	Statistics				
	N		Mean	Median	Std. Deviation
	Valid	Missing			
q1a Available and conveniently located	6	0	3.00	3.00	.894
q1b Based on realistic prerequisites	6	0	2.67	3.00	1.033
q1c Available at a moderate cost	6	0	2.67	2.50	1.366
q2a Are available to students	6	0	3.50	3.00	.837
q2b Describe what you will learn in the course	6	0	3.33	3.00	.516
q2c Are used by the instructor	6	0	3.33	3.00	.516
q3a Meet your occupational needs	6	0	3.00	3.00	.894
q3b Meet your occupational interests	6	0	3.33	3.00	.516
q3c Meet your occupational objectives	6	0	3.17	3.00	.408
q3d Provide supervised practice for developing job skills	6	0	3.33	3.50	.816
q4a Pertinent to occupational instruction	6	0	1.83	2.00	.753
q4b Current and meaningful to you	6	0	2.17	2.00	.753
q5a Readily available at convenient locations	6	0	2.67	3.00	1.033
q5b Readily available to both day and evening students	6	0	1.83	2.00	.753
q5c Coordinated with classroom instruction	6	0	3.00	3.00	.894
q5d Coordinated with employer supervision	6	0	2.17	2.00	.753
q6a Meets your needs	6	0	2.67	2.50	.816
q6b Meets your interests	6	0	3.33	3.50	.816
q6c Helps you plan your progress	6	0	3.00	3.00	.894
q6d Helps you make career decisions/choices	6	0	2.67	2.50	1.211

q6e Helps you understand your rights/responsibilities	6	0	2.50	2.50	1.049
q6f Helps you evaluate job opportunities	6	0	2.67	3.00	1.033
q6g Is provided by knowledgeable, interested staff	6	0	3.17	3.50	.983
q6h Explains non-traditional opportunities for both sexes	6	0	3.33	3.50	1.211
q7a Is provided to help you make career decisions	6	0	3.00	3.50	1.265
q7b Indicates how many job opportunities	6	0	2.67	2.50	1.211
q7c Identifies where these job opportunities are located	6	0	3.00	3.50	1.265
q7d Tells about job advancement opportunities	6	0	3.33	3.50	1.211
q8a Help you find employment opportunities	6	0	2.50	2.50	1.378
q8b Prepare you to apply for a job	6	0	2.50	2.50	1.378
q9a Know the subject matter	6	0	3.83	4.00	.408
q9b Know the occupational requirements	6	0	3.00	3.00	1.095
q9c Are available to provide help when you need it	6	0	3.50	3.50	.548
q9d Provide instruction so it is interesting	6	0	2.83	3.00	1.169
q9e Provide instruction so it is understandable	6	0	3.17	3.50	1.169
q10a Available to meet your needs	6	0	3.00	3.00	1.095
q10b Available to meet your interests	6	0	2.83	3.00	1.169
q10c Provided by knowledgeable, interested staff	6	0	3.00	3.00	1.095
q11a Provide adequate utilities	6	0	3.00	3.50	1.265
q11b Include enough workstations	6	0	2.83	3.00	1.169
q11c Are safe, functional and well maintained	6	0	2.67	3.00	1.033
q11d Are available on an equal basis for all students	6	0	3.50	4.00	.837
q12a Current and representative of industry	6	0	1.83	1.50	.983
q12b In sufficient quantities to avoid long delays in use	6	0	1.67	1.00	1.033
q12c Safe and in good condition	6	0	1.83	1.50	.983
q13a Available and conveniently located for use as needed	6	0	3.17	3.00	.408

q13b Current and meaningful to the subject	6	0	3.33	3.00	.516
q13c Not biased toward "traditional" sex roles	6	0	3.33	3.00	.516
q13d Available at a reasonable cost	6	0	2.17	2.50	.983
q14 Additional comments	6	0			

Frequency Table

q1a Available and conveniently located

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Dissatisfied	2	33.3	33.3	33.3
	Somewhat Satisfied	2	33.3	33.3	66.7
	Very Satisfied	2	33.3	33.3	100.0
	Total	6	100.0	100.0	

q1b Based on realistic prerequisites

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	16.7	16.7	16.7
	Somewhat Dissatisfied	1	16.7	16.7	33.3
	Somewhat Satisfied	3	50.0	50.0	83.3
	Very Satisfied	1	16.7	16.7	100.0
	Total	6	100.0	100.0	

q1c Available at a moderate cost

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	16.7	16.7	16.7
	Somewhat Dissatisfied	2	33.3	33.3	50.0
	Somewhat Satisfied	2	33.3	33.3	83.3
	Don't Know	1	16.7	16.7	100.0
	Total	6	100.0	100.0	

q2a Are available to students

		Frequency	Percent	Valid Percent	Cumulative Percent

Valid	Somewhat Satisfied	4	66.7	66.7	66.7
	Very Satisfied	1	16.7	16.7	83.3
	Don't Know	1	16.7	16.7	100.0
	Total	6	100.0	100.0	

q2b Describe what you will learn in the course

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	4	66.7	66.7	66.7
	Very Satisfied	2	33.3	33.3	100.0
	Total	6	100.0	100.0	

q2c Are used by the instructor

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	4	66.7	66.7	66.7
	Very Satisfied	2	33.3	33.3	100.0
	Total	6	100.0	100.0	

q3a Meet your occupational needs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Dissatisfied	2	33.3	33.3	33.3
	Somewhat Satisfied	2	33.3	33.3	66.7
	Very Satisfied	2	33.3	33.3	100.0
	Total	6	100.0	100.0	

q3b Meet your occupational interests

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	4	66.7	66.7	66.7
	Very Satisfied	2	33.3	33.3	100.0
	Total	6	100.0	100.0	

q3c Meet your occupational objectives

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	5	83.3	83.3	83.3

	Very Satisfied	1	16.7	16.7	100.0
	Total	6	100.0	100.0	

q3d Provide supervised practice for developing job skills

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Dissatisfied	1	16.7	16.7	16.7
	Somewhat Satisfied	2	33.3	33.3	50.0
	Very Satisfied	3	50.0	50.0	100.0
	Total	6	100.0	100.0	

q4a Pertinent to occupational instruction

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	2	33.3	33.3	33.3
	Somewhat Dissatisfied	3	50.0	50.0	83.3
	Somewhat Satisfied	1	16.7	16.7	100.0
	Total	6	100.0	100.0	

q4b Current and meaningful to you

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	16.7	16.7	16.7
	Somewhat Dissatisfied	3	50.0	50.0	66.7
	Somewhat Satisfied	2	33.3	33.3	100.0
	Total	6	100.0	100.0	

q5a Readily available at convenient locations

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	16.7	16.7	16.7
	Somewhat Dissatisfied	1	16.7	16.7	33.3
	Somewhat Satisfied	3	50.0	50.0	83.3
	Very Satisfied	1	16.7	16.7	100.0
	Total	6	100.0	100.0	

q5b Readily available to both day and evening students

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	2	33.3	33.3	33.3
	Somewhat Dissatisfied	3	50.0	50.0	83.3
	Somewhat Satisfied	1	16.7	16.7	100.0
	Total	6	100.0	100.0	

q5c Coordinated with classroom instruction

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Dissatisfied	2	33.3	33.3	33.3
	Somewhat Satisfied	2	33.3	33.3	66.7
	Very Satisfied	2	33.3	33.3	100.0
	Total	6	100.0	100.0	

q5d Coordinated with employer supervision

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	16.7	16.7	16.7
	Somewhat Dissatisfied	3	50.0	50.0	66.7
	Somewhat Satisfied	2	33.3	33.3	100.0
	Total	6	100.0	100.0	

q6a Meets your needs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Dissatisfied	3	50.0	50.0	50.0
	Somewhat Satisfied	2	33.3	33.3	83.3
	Very Satisfied	1	16.7	16.7	100.0
	Total	6	100.0	100.0	

q6b Meets your interests

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Dissatisfied	1	16.7	16.7	16.7

	Somewhat Satisfied	2	33.3	33.3	50.0
	Very Satisfied	3	50.0	50.0	100.0
	Total	6	100.0	100.0	

q6c Helps you plan your progress

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Dissatisfied	2	33.3	33.3	33.3
	Somewhat Satisfied	2	33.3	33.3	66.7
	Very Satisfied	2	33.3	33.3	100.0
	Total	6	100.0	100.0	

q6d Helps you make career decisions/choices

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	16.7	16.7	16.7
	Somewhat Dissatisfied	2	33.3	33.3	50.0
	Somewhat Satisfied	1	16.7	16.7	66.7
	Very Satisfied	2	33.3	33.3	100.0
	Total	6	100.0	100.0	

q6e Helps you understand your rights/responsibilities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	16.7	16.7	16.7
	Somewhat Dissatisfied	2	33.3	33.3	50.0
	Somewhat Satisfied	2	33.3	33.3	83.3
	Very Satisfied	1	16.7	16.7	100.0
	Total	6	100.0	100.0	

q6f Helps you evaluate job opportunities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	16.7	16.7	16.7

	Somewhat Dissatisfied	1	16.7	16.7	33.3
	Somewhat Satisfied	3	50.0	50.0	83.3
	Very Satisfied	1	16.7	16.7	100.0
	Total	6	100.0	100.0	

q6g Is provided by knowledgeable, interested staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Dissatisfied	2	33.3	33.3	33.3
	Somewhat Satisfied	1	16.7	16.7	50.0
	Very Satisfied	3	50.0	50.0	100.0
	Total	6	100.0	100.0	

q6h Explains non-traditional opportunities for both sexes

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Dissatisfied	2	33.3	33.3	33.3
	Somewhat Satisfied	1	16.7	16.7	50.0
	Very Satisfied	2	33.3	33.3	83.3
	Don't Know	1	16.7	16.7	100.0
	Total	6	100.0	100.0	

q7a Is provided to help you make career decisions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	16.7	16.7	16.7
	Somewhat Dissatisfied	1	16.7	16.7	33.3
	Somewhat Satisfied	1	16.7	16.7	50.0
	Very Satisfied	3	50.0	50.0	100.0
	Total	6	100.0	100.0	

q7b Indicates how many job opportunities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	16.7	16.7	16.7
	Somewhat Dissatisfied	2	33.3	33.3	50.0
	Somewhat Satisfied	1	16.7	16.7	66.7
	Very Satisfied	2	33.3	33.3	100.0

q7a Is provided to help you make career decisions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	16.7	16.7	16.7
	Somewhat Dissatisfied	1	16.7	16.7	33.3
	Somewhat Satisfied	1	16.7	16.7	50.0
	Very Satisfied	3	50.0	50.0	100.0
	Total	6	100.0	100.0	

q7c Identifies where these job opportunities are located

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	16.7	16.7	16.7
	Somewhat Dissatisfied	1	16.7	16.7	33.3
	Somewhat Satisfied	1	16.7	16.7	50.0
	Very Satisfied	3	50.0	50.0	100.0
	Total	6	100.0	100.0	

q7d Tells about job advancement opportunities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Dissatisfied	2	33.3	33.3	33.3
	Somewhat Satisfied	1	16.7	16.7	50.0
	Very Satisfied	2	33.3	33.3	83.3
	Don't Know	1	16.7	16.7	100.0
	Total	6	100.0	100.0	

q8a Help you find employment opportunities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	2	33.3	33.3	33.3
	Somewhat Dissatisfied	1	16.7	16.7	50.0
	Somewhat Satisfied	1	16.7	16.7	66.7
	Very Satisfied	2	33.3	33.3	100.0
	Total	6	100.0	100.0	

q8b Prepare you to apply for a job

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	2	33.3	33.3	33.3
	Somewhat Dissatisfied	1	16.7	16.7	50.0
	Somewhat Satisfied	1	16.7	16.7	66.7
	Very Satisfied	2	33.3	33.3	100.0
	Total	6	100.0	100.0	

q9a Know the subject matter

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	1	16.7	16.7	16.7
	Very Satisfied	5	83.3	83.3	100.0
	Total	6	100.0	100.0	

q9b Know the occupational requirements

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	16.7	16.7	16.7
	Somewhat Satisfied	3	50.0	50.0	66.7
	Very Satisfied	2	33.3	33.3	100.0
	Total	6	100.0	100.0	

q9c Are available to provide help when you need it

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	3	50.0	50.0	50.0
	Very Satisfied	3	50.0	50.0	100.0
	Total	6	100.0	100.0	

q9d Provide instruction so it is interesting

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	16.7	16.7	16.7
	Somewhat Dissatisfied	1	16.7	16.7	33.3
	Somewhat Satisfied	2	33.3	33.3	66.7

	Very Satisfied	2	33.3	33.3	100.0
	Total	6	100.0	100.0	

q9e Provide instruction so it is understandable

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	16.7	16.7	16.7
	Somewhat Satisfied	2	33.3	33.3	50.0
	Very Satisfied	3	50.0	50.0	100.0
	Total	6	100.0	100.0	

q10a Available to meet your needs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	16.7	16.7	16.7
	Somewhat Satisfied	3	50.0	50.0	66.7
	Very Satisfied	2	33.3	33.3	100.0
	Total	6	100.0	100.0	

q10b Available to meet your interests

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	16.7	16.7	16.7
	Somewhat Dissatisfied	1	16.7	16.7	33.3
	Somewhat Satisfied	2	33.3	33.3	66.7
	Very Satisfied	2	33.3	33.3	100.0
	Total	6	100.0	100.0	

q10c Provided by knowledgeable, interested staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	16.7	16.7	16.7
	Somewhat Satisfied	3	50.0	50.0	66.7
	Very Satisfied	2	33.3	33.3	100.0
	Total	6	100.0	100.0	

q11a Provide adequate utilities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	16.7	16.7	16.7
	Somewhat Dissatisfied	1	16.7	16.7	33.3
	Somewhat Satisfied	1	16.7	16.7	50.0
	Very Satisfied	3	50.0	50.0	100.0
	Total	6	100.0	100.0	

q11b Include enough workstations

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	16.7	16.7	16.7
	Somewhat Dissatisfied	1	16.7	16.7	33.3
	Somewhat Satisfied	2	33.3	33.3	66.7
	Very Satisfied	2	33.3	33.3	100.0
	Total	6	100.0	100.0	

q11c Are safe, functional and well maintained

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	16.7	16.7	16.7
	Somewhat Dissatisfied	1	16.7	16.7	33.3
	Somewhat Satisfied	3	50.0	50.0	83.3
	Very Satisfied	1	16.7	16.7	100.0
	Total	6	100.0	100.0	

q11d Are available on an equal basis for all students

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Dissatisfied	1	16.7	16.7	16.7
	Somewhat Satisfied	1	16.7	16.7	33.3
	Very Satisfied	4	66.7	66.7	100.0
	Total	6	100.0	100.0	

q12a Current and representative of industry

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	3	50.0	50.0	50.0
	Somewhat Dissatisfied	1	16.7	16.7	66.7
	Somewhat Satisfied	2	33.3	33.3	100.0
	Total	6	100.0	100.0	

q12b In sufficient quantities to avoid long delays in use

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	4	66.7	66.7	66.7
	Somewhat Satisfied	2	33.3	33.3	100.0
	Total	6	100.0	100.0	

q12c Safe and in good condition

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	3	50.0	50.0	50.0
	Somewhat Dissatisfied	1	16.7	16.7	66.7
	Somewhat Satisfied	2	33.3	33.3	100.0
	Total	6	100.0	100.0	

q13a Available and conveniently located for use as needed

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	5	83.3	83.3	83.3
	Very Satisfied	1	16.7	16.7	100.0
	Total	6	100.0	100.0	

q13b Current and meaningful to the subject

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	4	66.7	66.7	66.7

	Very Satisfied	2	33.3	33.3	100.0
	Total	6	100.0	100.0	

q13c Not biased toward "traditional" sex roles

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	4	66.7	66.7	66.7
	Very Satisfied	2	33.3	33.3	100.0
	Total	6	100.0	100.0	

q13d Available at a reasonable cost

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	2	33.3	33.3	33.3
	Somewhat Dissatisfied	1	16.7	16.7	50.0
	Somewhat Satisfied	3	50.0	50.0	100.0
	Total	6	100.0	100.0	

q14 Additional comments

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		3	50.0	50.0	50.0
	everything we have for the shop is either very old and/or probably broken	1	16.7	16.7	66.7
	i dont like how we get some equipment donated to us from industry and they dont allow us to tare t apart and put it back together or allow us to operate every piece of equipment. with are labs with the trans and like axles we take apart and half the bolts are parts are missing it not even like where working on real equipment like u take a cover off and some ones just has a munch of extra parts stached here. some of are teachers are a acomplete joke and need to retire all ready and when labs come to effect some of those are a joke too.	1	16.7	16.7	83.3

	The staff is great and very helpful but it would be nice to get some newer equipment or a bigger budget to get these items... I know this is a very hard topic to get money for, but do we really need 3 skid steers. finally it would be nice to talk to some new manufactures because im sure that the majority of the ones wall don't do much for the program.	1	16.7	16.7	100.0
	Total	6	100.0	100.0	

F. FACULTY PERCEPTIONS:

The purpose of this activity is assess faculty perceptions regarding the following aspects of the program: curriculum, resources, admission standards, degree of commitment by the administration, processes and procedures used, and their overall feelings. Additional items that may be unique to the program can be incorporated in this survey.

1) HEAVY EQUIPMENT – FACULTY PERCEPTIONS SURVEY

Please complete the following questions by placing an “X” in the appropriate box, using the scale below. Your input is key to the continued success of the Heavy Equipment Technology (HEQT) program at Ferris State University.

1=poor, 2=below expectations, 3=acceptable, 4=good, 5=excellent, ?=do not know

1 2 3 4 5 ?

Goals and Objective:

- 1. Participation in development of college occupational education program plan
- 2. Program goals
- 3. Course objectives
- 4. Competency based performance objectives
- 5. Use of competency based performance objectives
- 6. Use of information on labor market needs
- 7. Use of information on job performance requirements
- 8. Use of profession/industry standards
- 9. Use of student follow-up information

Processes:

- 10. Adaptation of instruction
- 11. Relevance of supportive courses
- 12. Coordination with other community agencies and educational programs
- 13. Provision for work experience, cooperative education or clinical experience
- 14. Program availability and accessibility
- 15. Provision for the disadvantaged
- 16. Provision for the handicapped
- 17. Efforts to achieve sex equity
- 18. Provision for program advertisement
- 19. Provision for career planning and guidance
- 20. Adequacy of career planning and guidance
- 21. Provision for employability information
- 22. Placement effectiveness for students in program
- 23. Student follow-up system
- 24. Promotion of this program

Resources:

25. Provision for leadership and coordination
26. Qualifications of administrators and supervisors
27. Instructional staffing
28. Qualifications of instructional staff
29. Professional development opportunities
30. Use of instructional support staff
31. Use of clerical support staff
32. Adequacy and availability of instructional equipment
33. Maintenance and safety of instructional equipment
34. Adequacy of instructional facilities
35. Scheduling of instructional facilities
36. Adequacy and availability of materials and supplies
37. Adequacy and availability of learning resources
38. Use of advisory committees
39. Provisions in current operating budget
40. Provisions for capital outlay budget for equipment

Comments: _____

Thank You!!

2) HEAVY EQUIPMENT – FACULTY PERCEPTIONS SURVEY RESULTS

Frequencies Prepared by: Institutional Research & Testing, 05/10

	Statistics		Mean	Median	Std. Deviation
	Valid	Missing			
q1a Participation in development of college occupational education program plan	3	0	3.33	3.00	.577
q1b Program goals	3	0	3.33	3.00	.577
q1c Course objectives	3	0	3.33	3.00	.577
q1d Competency based performance objectives	3	0	3.33	3.00	.577
q1e Use of competency based performance objectives	3	0	3.67	4.00	.577
q1f Use of information on labor market needs	3	0	3.67	4.00	.577
q1g Use of information on job performance requirements	3	0	3.33	3.00	.577
q1h Use of profession/industry standards	3	0	3.67	4.00	.577
q1i Use of student follow-up information	3	0	3.33	3.00	.577
q2a Adaptation of instruction	3	0	3.67	4.00	.577
q2b Relevance of supportive courses	3	0	3.33	3.00	.577
q2c Coordination with other community agencies and educational programs	3	0	3.33	3.00	.577

q2d Provision for work experience, cooperative education or clinical experience	3	0	4.00	4.00	.000
q2e Program availability and accessibility	3	0	3.33	3.00	.577
q2f Provision for the disadvantaged	3	0	3.33	3.00	1.528
q2g Provision for the handicapped	3	0	3.33	3.00	1.528
q2h Efforts to achieve sex equity	3	0	3.00	3.00	.000
q2i Provision for program advertisement	3	0	2.33	2.00	1.528
q2j Provision for career planning and guidance	3	0	3.67	4.00	.577
q2k Adequacy of career planning and guidance	3	0	3.67	4.00	.577
q2l Provision for employability information	3	0	3.67	4.00	.577
q2m Placement effectiveness for students in program	3	0	3.67	4.00	.577
q2n Student follow-up system	3	0	3.00	3.00	.000
q2o Promotion of this program	3	0	2.33	2.00	1.528
q3a Provision for leadership and coordination	3	0	2.67	3.00	.577
q3b Qualifications of administrators and supervisors	3	0	3.00	3.00	1.000
q3c Instructional staffing	3	0	3.67	4.00	.577
q3d Qualifications of instructional staff	3	0	4.00	4.00	.000
q3e Professional development opportunities	3	0	3.67	4.00	.577
q3f Use of instructional support staff	3	0	3.00	4.00	1.732
q3g Use of clerical support staff	3	0	3.67	4.00	.577
q3h Adequacy of instructional equipment	3	0	2.33	2.00	.577
q3i Availability of instructional equipment	3	0	2.33	2.00	.577
q3j Maintenance of instructional equipment	3	0	2.33	2.00	.577
q3k Safety of instructional equipment	3	0	3.33	3.00	.577
q3l Adequacy of instructional facilities	3	0	3.67	4.00	.577
q3m Scheduling of instructional facilities	3	0	3.33	3.00	.577
q3n Adequacy of materials and supplies	3	0	3.00	3.00	.000
q3o Availability of materials and supplies	3	0	3.00	3.00	.000
q3p Adequacy of learning resources	3	0	3.33	3.00	.577
q3q Availability of learning resources	3	0	3.33	3.00	.577
q3r Use of advisory committees	3	0	3.00	3.00	1.000
q3s Provisions in current operating budget	3	0	2.33	2.00	.577
q3t Provisions for capital outlay budget for equipment	3	0	2.33	2.00	.577
q4 Additional comments	3	0			

Frequency Table

q1a Participation in development of college occupational education program plan

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	2	66.7	66.7	66.7
	Very Satisfied	1	33.3	33.3	100.0
	Total	3	100.0	100.0	

q1b Program goals

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	2	66.7	66.7	66.7
	Very Satisfied	1	33.3	33.3	100.0
	Total	3	100.0	100.0	

q1c Course objectives

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	2	66.7	66.7	66.7
	Very Satisfied	1	33.3	33.3	100.0
	Total	3	100.0	100.0	

q1d Competency based performance objectives

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	2	66.7	66.7	66.7
	Very Satisfied	1	33.3	33.3	100.0
	Total	3	100.0	100.0	

q1e Use of competency based performance objectives

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	1	33.3	33.3	33.3
	Very Satisfied	2	66.7	66.7	100.0
	Total	3	100.0	100.0	

q1f Use of information on labor market needs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	1	33.3	33.3	33.3
	Very Satisfied	2	66.7	66.7	100.0
	Total	3	100.0	100.0	

q1g Use of information on job performance requirements

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	2	66.7	66.7	66.7
	Very Satisfied	1	33.3	33.3	100.0
	Total	3	100.0	100.0	

q1h Use of profession/industry standards

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	1	33.3	33.3	33.3
	Very Satisfied	2	66.7	66.7	100.0
	Total	3	100.0	100.0	

q1i Use of student follow-up information

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	2	66.7	66.7	66.7
	Very Satisfied	1	33.3	33.3	100.0
	Total	3	100.0	100.0	

q2a Adaptation of instruction

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	1	33.3	33.3	33.3
	Very Satisfied	2	66.7	66.7	100.0
	Total	3	100.0	100.0	

q2b Relevance of supportive courses

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	2	66.7	66.7	66.7
	Very Satisfied	1	33.3	33.3	100.0
	Total	3	100.0	100.0	

q2c Coordination with other community agencies and educational programs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	2	66.7	66.7	66.7
	Very Satisfied	1	33.3	33.3	100.0
	Total	3	100.0	100.0	

q2d Provision for work experience, cooperative education or clinical experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Satisfied	3	100.0	100.0	100.0

q2e Program availability and accessibility

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	2	66.7	66.7	66.7
	Very Satisfied	1	33.3	33.3	100.0
	Total	3	100.0	100.0	

q2f Provision for the disadvantaged

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Dissatisfied	1	33.3	33.3	33.3
	Somewhat Satisfied	1	33.3	33.3	66.7
	Don't Know	1	33.3	33.3	100.0
	Total	3	100.0	100.0	

q2g Provision for the handicapped

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Dissatisfied	1	33.3	33.3	33.3
	Somewhat Satisfied	1	33.3	33.3	66.7
	Don't Know	1	33.3	33.3	100.0
	Total	3	100.0	100.0	

q2h Efforts to achieve sex equity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	3	100.0	100.0	100.0

q2i Provision for program advertisement

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	33.3	33.3	33.3
	Somewhat Dissatisfied	1	33.3	33.3	66.7
	Very Satisfied	1	33.3	33.3	100.0
	Total	3	100.0	100.0	

q2j Provision for career planning and guidance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	1	33.3	33.3	33.3
	Very Satisfied	2	66.7	66.7	100.0
	Total	3	100.0	100.0	

q2k Adequacy of career planning and guidance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	1	33.3	33.3	33.3
	Very Satisfied	2	66.7	66.7	100.0
	Total	3	100.0	100.0	

q2l Provision for employability information

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	1	33.3	33.3	33.3
	Very Satisfied	2	66.7	66.7	100.0
	Total	3	100.0	100.0	

q2m Placement effectiveness for students in program

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	1	33.3	33.3	33.3
	Very Satisfied	2	66.7	66.7	100.0
	Total	3	100.0	100.0	

q2n Student follow-up system

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	3	100.0	100.0	100.0

q2o Promotion of this program

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	33.3	33.3	33.3
	Somewhat Dissatisfied	1	33.3	33.3	66.7
	Very Satisfied	1	33.3	33.3	100.0
	Total	3	100.0	100.0	

q3a Provision for leadership and coordination

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Dissatisfied	1	33.3	33.3	33.3
	Somewhat Satisfied	2	66.7	66.7	100.0
	Total	3	100.0	100.0	

q3b Qualifications of administrators and supervisors

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Dissatisfied	1	33.3	33.3	33.3
	Somewhat Satisfied	1	33.3	33.3	66.7
	Very Satisfied	1	33.3	33.3	100.0
	Total	3	100.0	100.0	

q3c Instructional staffing

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	1	33.3	33.3	33.3
	Very Satisfied	2	66.7	66.7	100.0
	Total	3	100.0	100.0	

q3d Qualifications of instructional staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Satisfied	3	100.0	100.0	100.0

q3e Professional development opportunities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	1	33.3	33.3	33.3
	Very Satisfied	2	66.7	66.7	100.0
	Total	3	100.0	100.0	

q3f Use of instructional support staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	1	33.3	33.3	33.3
	Very Satisfied	2	66.7	66.7	100.0
	Total	3	100.0	100.0	

q3g Use of clerical support staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	1	33.3	33.3	33.3
	Very Satisfied	2	66.7	66.7	100.0
	Total	3	100.0	100.0	

q3h Adequacy of instructional equipment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Dissatisfied	2	66.7	66.7	66.7
	Somewhat Satisfied	1	33.3	33.3	100.0
	Total	3	100.0	100.0	

q3i Availability of instructional equipment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Dissatisfied	2	66.7	66.7	66.7
	Somewhat Satisfied	1	33.3	33.3	100.0
	Total	3	100.0	100.0	

q3j Maintenance of instructional equipment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Dissatisfied	2	66.7	66.7	66.7
	Somewhat Satisfied	1	33.3	33.3	100.0
	Total	3	100.0	100.0	

q3k Safety of instructional equipment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	2	66.7	66.7	66.7
	Very Satisfied	1	33.3	33.3	100.0
	Total	3	100.0	100.0	

q3l Adequacy of instructional facilities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	1	33.3	33.3	33.3
	Very Satisfied	2	66.7	66.7	100.0
	Total	3	100.0	100.0	

q3m Scheduling of instructional facilities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	2	66.7	66.7	66.7
	Very Satisfied	1	33.3	33.3	100.0
	Total	3	100.0	100.0	

q3n Adequacy of materials and supplies

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	3	100.0	100.0	100.0

q3o Availability of materials and supplies

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	3	100.0	100.0	100.0

q3p Adequacy of learning resources

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	2	66.7	66.7	66.7
	Very Satisfied	1	33.3	33.3	100.0
	Total	3	100.0	100.0	

q3q Availability of learning resources

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Satisfied	2	66.7	66.7	66.7

	Very Satisfied	1	33.3	33.3	100.0
	Total	3	100.0	100.0	

q3r Use of advisory committees

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Dissatisfied	1	33.3	33.3	33.3
	Somewhat Satisfied	1	33.3	33.3	66.7
	Very Satisfied	1	33.3	33.3	100.0
	Total	3	100.0	100.0	

q3s Provisions in current operating budget

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Dissatisfied	2	66.7	66.7	66.7
	Somewhat Satisfied	1	33.3	33.3	100.0
	Total	3	100.0	100.0	

q3t Provisions for capital outlay budget for equipment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Dissatisfied	2	66.7	66.7	66.7
	Somewhat Satisfied	1	33.3	33.3	100.0
	Total	3	100.0	100.0	

q4 Additional comments

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		3	100.0	100.0	100.0

G. ADVISORY COMMITTEE PERCEPTIONS:

The purpose of this survey is to obtain information from the members of the program advisory committee regarding curriculum, outcomes, facilities, equipment, graduates, micro- and mega-trends that might affect job placement (both positively and adversely) and other relevant information. Recommendations for improvement must be sought from this group. In the event a program does not have an advisory committee, a group of individuals may be identified to serve in that capacity on a temporary basis.

1) Heavy equipment technology – advisory committee survey

As part of the Academic Program Review (APR), the Heavy Equipment Technology/Heavy Equipment Service Engineering Technology Program is asking the advisory board members to take a few minutes to fill out this survey regarding the program.

Q1 For each item listed below, please choose the option that best represents your perception.

	Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree	Don't Know
HEQT/HSET Programs are consistent with the mission of FSU.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The programs are guided by an effective advisory board.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The quality of the HEQT/HSET Programs at FSU compare favorably with similar programs around the country.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Instructional content reflects what is needed to be successful in today's workplace.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Program faculty possesses knowledge of & teaches current practices.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Program faculty provides students with appropriate classroom activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Program faculty has good rapport with students.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Program faculty provides students with appropriate academic advising	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Program faculty provides students with appropriate advising about career planning & placement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The FSU administration supports the HEQT/HSET programs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The current operating budget is sufficient to meet program needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The number of qualified tenure-track faculty is sufficient to meet program needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The program has adequate resources allocated for coordination & administration.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The department & university provide program faculty sufficient opportunity & support for professional development.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HEQT/HSET students are well prepared to enter the workforce.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

FSU's HEQT/HSET programs prepare students to industry better than other schools.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HEQT/HSET grads contribute as much as other grads in their first 6 months of employment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HEQT/HSET programs provide a foundation for multiple career possibilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Adequate placement assistance is provided to graduates.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There are a number of varied & high quality internships available to students.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There are job opportunities available to FSU HEQT/HSET graduates.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q2 What qualities/skills, if any, do you feel are lacking in graduates of the Heavy Equipment Programs.

Q3 What do you see as the strengths of the Heavy Equipment Programs?

Q4 What do you see as areas needing improvement?

Q5 Please provide comments and suggestions that would help to better prepare future graduates?

Thank you for your time and assistance!

2) HEAVY EQUIPMENT – ADVISORY COMMITTEE SURVEYRESULTS

Frequencies

Prepared by: Institutional Research & Testing, 05/10

Statistics

	N		Mean	Median	Std. Deviation
	Valid	Missing			
q1a Consistent with the mission of FSU	13	0	3.77	4.00	.599
q1b Guided by an effective advisory board	13	0	3.62	4.00	.506
q1c Quality of progs compare favorably with similar progs	13	0	3.69	4.00	.947
q1d Instructional content reflects what is needed to be successful	12	1	3.50	3.50	.522
q1e Faculty possesses knowledge of & teaches current practices	13	0	3.46	4.00	.660
q1f Faculty provides students with appropriate classroom activities	13	0	3.46	4.00	.776
q1g Faculty has good rapport with students	13	0	3.46	4.00	.776
q1h Faculty provides students with appropriate academic advising	13	0	3.62	4.00	.768
q1i Faculty provides students with appropriate career advising	13	0	3.54	4.00	.776
q1j Administration supports the HEQT/HSET programs	13	0	2.46	2.00	.967

q1k The current operating budget is sufficient to meet program needs	13	0	2.77	2.00	1.589
q1l Number of qualified tenure-track faculty is sufficient	13	0	3.92	4.00	1.038
q1m Adequate resources allocated for coordination & administration	13	0	3.00	3.00	1.225
q1n Faculty have sufficient opportunity & support for pro development	13	0	3.46	3.00	1.450
q1o Students are well prepared to enter the workforce	13	0	3.62	4.00	.506
q1p Progs prepare students to industry better than other schools	13	0	3.62	4.00	.768
q1q Grads contribute as much as other grads in 1st 6 months	13	0	3.77	4.00	.725
q1r Progs provide a foundation for multiple career possibilities	13	0	3.69	4.00	.630
q1s Adequate placement assistance is provided	13	0	3.77	4.00	.832
q1t Number of varied & high quality internships available	13	0	3.08	3.00	.760
q1u There are job opportunities available	13	0	3.69	4.00	.480
q2 Qualities/skills, if any, do you feel are lacking	13	0			
q3 Strengths of the Heavy Equipment programs	13	0			
q4 Areas needing improvement	13	0			
q5 Additional comments/suggestions	13	0			

Frequency Table

q1a Consistent with the mission of FSU

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Agree	4	30.8	30.8	30.8
	Strongly Agree	8	61.5	61.5	92.3
	Don't Know	1	7.7	7.7	100.0
	Total	13	100.0	100.0	

q1b Guided by an effective advisory board

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Agree	5	38.5	38.5	38.5
	Strongly Agree	8	61.5	61.5	100.0
	Total	13	100.0	100.0	

q1c Quality of progs compare favorably with similar progs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Disagree	2	15.4	15.4	15.4
	Somewhat Agree	2	15.4	15.4	30.8
	Strongly Agree	7	53.8	53.8	84.6
	Don't Know	2	15.4	15.4	100.0
	Total	13	100.0	100.0	

q1d Instructional content reflects what is needed to be successful

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Agree	6	46.2	50.0	50.0
	Strongly Agree	6	46.2	50.0	100.0
	Total	12	92.3	100.0	
Missing	System	1	7.7		
Total		13	100.0		

q1e Faculty possesses knowledge of & teaches current practices

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Disagree	1	7.7	7.7	7.7
	Somewhat Agree	5	38.5	38.5	46.2
	Strongly Agree	7	53.8	53.8	100.0
	Total	13	100.0	100.0	

q1f Faculty provides students with appropriate classroom activities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Disagree	2	15.4	15.4	15.4

	Somewhat Agree	3	23.1	23.1	38.5
	Strongly Agree	8	61.5	61.5	100.0
	Total	13	100.0	100.0	

q1g Faculty has good rapport with students

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Disagree	2	15.4	15.4	15.4
	Somewhat Agree	3	23.1	23.1	38.5
	Strongly Agree	8	61.5	61.5	100.0
	Total	13	100.0	100.0	

q1h Faculty provides students with appropriate academic advising

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Disagree	1	7.7	7.7	7.7
	Somewhat Agree	4	30.8	30.8	38.5
	Strongly Agree	7	53.8	53.8	92.3
	Don't Know	1	7.7	7.7	100.0
	Total	13	100.0	100.0	

q1i Faculty provides students with appropriate career advising

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Disagree	1	7.7	7.7	7.7
	Somewhat Agree	5	38.5	38.5	46.2
	Strongly Agree	6	46.2	46.2	92.3
	Don't Know	1	7.7	7.7	100.0
	Total	13	100.0	100.0	

q1j Administration supports the HEQT/HSET programs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	15.4	15.4	15.4
	Somewhat Disagree	5	38.5	38.5	53.8

	Somewhat Agree	4	30.8	30.8	84.6
	Strongly Agree	2	15.4	15.4	100.0
	Total	13	100.0	100.0	

q1k The current operating budget is sufficient to meet program needs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	23.1	23.1	23.1
	Somewhat Disagree	5	38.5	38.5	61.5
	Strongly Agree	2	15.4	15.4	76.9
	Don't Know	3	23.1	23.1	100.0
	Total	13	100.0	100.0	

q1l Number of qualified tenure-track faculty is sufficient

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Disagree	1	7.7	7.7	7.7
	Somewhat Agree	4	30.8	30.8	38.5
	Strongly Agree	3	23.1	23.1	61.5
	Don't Know	5	38.5	38.5	100.0
	Total	13	100.0	100.0	

q1m Adequate resources allocated for coordination & administration

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	7.7	7.7	7.7
	Somewhat Disagree	4	30.8	30.8	38.5
	Somewhat Agree	4	30.8	30.8	69.2
	Strongly Agree	2	15.4	15.4	84.6
	Don't Know	2	15.4	15.4	100.0
	Total	13	100.0	100.0	

q1n Faculty have sufficient opportunity & support for pro development

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	7.7	7.7	7.7
	Somewhat Disagree	3	23.1	23.1	30.8
	Somewhat Agree	3	23.1	23.1	53.8
	Strongly Agree	1	7.7	7.7	61.5
	Don't Know	5	38.5	38.5	100.0
	Total	13	100.0	100.0	

q1o Students are well prepared to enter the workforce

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Agree	5	38.5	38.5	38.5
	Strongly Agree	8	61.5	61.5	100.0
	Total	13	100.0	100.0	

q1p Progs prepare students to industry better than other schools

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Disagree	1	7.7	7.7	7.7
	Somewhat Agree	4	30.8	30.8	38.5
	Strongly Agree	7	53.8	53.8	92.3
	Don't Know	1	7.7	7.7	100.0
	Total	13	100.0	100.0	

q1q Grads contribute as much as other grads in 1st 6 months

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Disagree	1	7.7	7.7	7.7
	Somewhat Agree	2	15.4	15.4	23.1
	Strongly Agree	9	69.2	69.2	92.3
	Don't Know	1	7.7	7.7	100.0
	Total	13	100.0	100.0	

q1r Progs provide a foundation for multiple career possibilities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Disagree	1	7.7	7.7	7.7
	Somewhat Agree	2	15.4	15.4	23.1
	Strongly Agree	10	76.9	76.9	100.0
	Total	13	100.0	100.0	

q1s Adequate placement assistance is provided

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Disagree	1	7.7	7.7	7.7
	Somewhat Agree	3	23.1	23.1	30.8
	Strongly Agree	7	53.8	53.8	84.6
	Don't Know	2	15.4	15.4	100.0
	Total	13	100.0	100.0	

q1t Number of varied & high quality internships available

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Disagree	2	15.4	15.4	15.4
	Somewhat Agree	9	69.2	69.2	84.6
	Strongly Agree	1	7.7	7.7	92.3
	Don't Know	1	7.7	7.7	100.0
	Total	13	100.0	100.0	

q1u There are job opportunities available

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Agree	4	30.8	30.8	30.8
	Strongly Agree	9	69.2	69.2	100.0
	Total	13	100.0	100.0	

q2 Qualities/skills, if any, do you feel are lacking

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		6	46.2	46.2	46.2
	Business fundamentals, how to read and understand income statements and cash flow management.	1	7.7	7.7	53.8
	Graduates need to have better knowledge and understanding of basic trouble shooting and problem solving skills	1	7.7	7.7	61.5
	Hands on experience.They need to have some more shop type experience	1	7.7	7.7	69.2
	I feel that there should be more concentrated effort in the financial areas...i.e. if an FSU graduate were to run a truck dealership at some point or be responsible for profitable HD truck parts sales at a distributorship or OEM truck dealership.etc. This addition to the mathematics program would be very helpful.	1	7.7	7.7	76.9
	Professionalism.	1	7.7	7.7	84.6
	The skills that I think are lacking focus around the needs to be successful in the Commercial Vehicle Industry and they are: 1.) Basic and Advanced Electronic System Fundamentals, basic theory and complete system diagnostics 2.) Critical Thinking Skills used for the development of basic and advanced diagnostic procedures 3.) The Heavy Equipment Program does not have specific goals that add up to a program vision	1	7.7	7.7	92.3
	They need more exposure to Technology...	1	7.7	7.7	100.0
	Total	13	100.0	100.0	

q3 Strengths of the Heavy Equipment programs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		4	30.8	30.8	30.8
	Broad focus of the program; Faculty experience; Industry support	1	7.7	7.7	38.5
	Good combination of hands on, study of theory, character development	1	7.7	7.7	46.2
	INSTRUCTORS	1	7.7	7.7	53.8
	Most of the Teaching staff are very skilled in their fields. This also need to be expanded to keep up with current demands...	1	7.7	7.7	61.5
	Technical and industry knowledge	1	7.7	7.7	69.2
	The "hands on" heavy duty maintenance practices backed up by a current and a relevent curriculum...taught by faculty who have real life experience around heavy trucks/trailers & equipment. The first class maintenance facility with up to date tools and equipment is obviously a tremendous asset to the FSU program!	1	7.7	7.7	76.9
	The Heavy Equipment program strengths are educating student on the very basic fundamentals of diesel engines, drive train components and basic hydraulics, in my opinion the students should have these skills before they enter the Heavy Equipment Program. This problem is a direct result of the K thru 12 educational systems eliminating opportunities for students to learn about the trades.	1	7.7	7.7	84.6
	They have a good foundation of training that they use later in their carreer.	1	7.7	7.7	92.3

Very practical knowledge, fairly up to date technology is covered. This is always evolving though, so staying on the edge isn't expected or necessary. Work ethic, instilled very well by the faculty and program, necessary for a good career.	1	7.7	7.7	100.0
Total	13	100.0	100.0	

q4 Areas needing improvement

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		4	30.8	30.8	30.8
	A coordinator, the current coordinator, Keith Cripe, I am told is no longer in this position which is a shame. Keith has promoted the program as well as anyone at that facility. The Heavy Equipment Program will fail if the University combines it with the Auto Program. The University needs a coordinator that works strictly for the Heavy Equipment Program to help promote it to fill the program and make sure the current staff stays focus on what is the good for the students not themselves	1	7.7	7.7	38.5
	General business skills.	1	7.7	7.7	46.2
	I think there needs to be more respect between students and instructors.	1	7.7	7.7	53.8
	Need more availability of equipment for students to play with in off time. Need to add emissions training.	1	7.7	7.7	61.5
	Professionalism.	1	7.7	7.7	69.2
	Technology is moving at an alarming rate. we need to make sure that our students are allowed access to this technology...	1	7.7	7.7	76.9

<p>The Heavy Equipment program needs to develop a marketing plan to "sell" the program to potential students. Many students claim that they never knew about the FSU Heavy Equipment program until they had already enrolled or graduated from a similar school.</p>	1	7.7	7.7	84.6
<p>The Heavy Equipment Program needs to improve the following: 1.) Develop a vision and set goals to meet and maintain the program vision. 2.) Obtain current product so that students can obtain experience on current product requirements 3.) Require instructors to use FerrisConnect as a platform for course management 4.) Provide marketing funding that will support the program vision and increase enrollment 5.) Increase University Support for in terms of budget to help with additional tooling and software requirements in the lab and classroom improvements like "Smart Classrooms" for Rm 101. 111 and 202.</p>	1	7.7	7.7	92.3
<p>The whole vehicular industry has seen a revolutionary change with regard to electronics. This trend will only intensify in importance in the future. The FSU HEQT/HSET program must stay current with (electronic) technology advancements to keep the graduates on top of this industry.</p>	1	7.7	7.7	100.0
<p>Total</p>	13	100.0	100.0	

q5 Additional comments/suggestions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		8	61.5	61.5	61.5
	FSU should "reach out" in a more aggressive manner to the heavy duty industry OEM truck, trailer, and component manufacturers....such as Daimler Trucks of North America, Navistar, Paccar (Peterbilt/Kenworth), Great Dane Trailers, Wabash, Cummins engine, Detroit Diesel, Bendix, Arvin Meritor, Dana etc. These companies will wholeheartedly support a program like FSU's...but they have to be asked! Also, more involvement in HD Industry organizations such as TMC (Technology and Maintenance Council)and HDMA (Heavy Duty Manufacturers Association) will keep FSU up to date on new industry technologies.	1	7.7	7.7	69.2
	I am not sure what kind of guidance councilor system the HEQ school has but there seems to be a huge gap between the 2 and 4 year students. It sure seems like part of the students are not getting the message. This could be a result that the classes are not mixed. Meaning not having underclassmen and upperclassmen in the same room.	1	7.7	7.7	76.9
	I feel the program is generally on track, and certainly is technically, filling in some of the details and support of business basics would be helpful. I feel the program is only moderatly supported by the administration, which is odd considering it's placement rates vs. some of the other programs.	1	7.7	7.7	84.6

	<p>My company has made many donations of Trucks as well as Engines to the program. We have done this in order to continue to give back the latest technology to our students. My main wish is that Ferris would make better management decisions in who they allow to run the day to day operations in Heavy Equipment. Keith Cripe and Greg Nicholson are NOT the future of this program...</p>	1	7.7	7.7	92.3
	<p>The Heavy Equipment Program needs to reinforce professionalism, be on time to class, dress appropriately, create a resume on the first day of class and maintain the resume, more interaction in the internship program. If the Heavy Equipment can demonstrate a vision and a set of goals to obtain the vision industry can then follow along to help the facility and students meet the goals to guarantee the vision is completed and maintained.</p>	1	7.7	7.7	100.0
	Total	13	100.0	100.0	

Section 3: Program Profile

Program Profile: Include Administrative Program Review documents in this section. Provide the number and percentage for the variable addresses for each of the years since inception (for new programs) or the last program review.

College: Engineering Technology

School: Automotive and Heavy Equipment

Program: Heavy Equipment Technology

Degrees: Heavy Equipment Service Engineering Technology, B.S.
Heavy Equipment Technology, A.A.S.

A. PROFILE OF STUDENTS.

1) Student Demographic Profile

a. Gender, race/ethnicity, age

AAS HEQT Program

Term	Enrolled	Gender			Race / Ethnicity							AGE
		Male	Female	Unknown	Black	Hispanic	Indian / Alaskan	Asian /Pac	White	Foreign	Age	
200508	59	58	1	7	0	1	1	0	48	2	21	
200608	47	45	2	5	0	0	1	0	41	0	20	
200708	63	60	3	0	0	1	1	0	61	0	20	
200808	74	72	2	0	1	0	1	0	72	0	20	
200908	65	64	1	0	0	0	0	0	64	0	20	

BS HSET Program

Term	Enrolled	Gender			Race / Ethnicity							AGE
		Male	Female	Unknown	Black	Hispanic	Indian / Alaskan	Asian /Pac	White	Foreign	Age	
200508	19	18	1	0	0	0	0	0	19	0	22	
200608	30	28	2	2	0	0	0	0	26	2	23	
200708	25	24	1	0	0	0	0	0	23	2	23	
200808	35	35	0	0	0	0	0	0	35	0	22	
200908	40	40	0	0	0	0	0	0	40	0	22	

b. In-state and Out-of-State

AAS HEQT Program

Term	Resident	Midwest Compact	Non-Resident
200508	55	2	2
200608	43	4	0
200708	60	3	0
200808	72	2	0
200908	61	3	1

BS HSET Program

Term	Resident	Midwest Compact	Non-Resident
200508	17	2	0
200608	27	1	2
200708	20	2	3
200808	29	5	1
200908	37	3	0

c. Full-time and Part-time

AAS HEQT Program

Term	Full Time	Part Time
200508	57	2
200608	43	4
200708	59	4
200808	70	4
200908	64	1

BS HSET Program

Term	Full Time	Part Time
200508	17	2
200608	30	0
200708	23	2
200808	33	2
200908	38	2

d. Attend classes during the day, evenings or on weekends.

The Heavy Equipment Technology program over the last 18 years has an average of 103.6 students enrolled for day classes. The Heavy Equipment Technology program does not currently offer any evening, or weekend classes however, should it be deemed necessary at some future point that could be an option.

e. Enrolled in classes on- and off-campus.

Program	06-07		07-08		08-09		09-10		
	On	Off	On	Off	On	Off	On	Off	
HSET BS	30	0	25	0	35	0	40	0	
HEQT AAS		47	0	63	0	74	0	65	0
Pre-HSET	0	0	1	0	0	0	0	0	
Pre-HEQT	5	0	7	0	1	0	1	0	

TOTAL: 82 96 110 106

f. Enrolled in 100% on-line and/or mixed delivery classes.

The Heavy Equipment Technology program does not currently offer any fully on-line courses however, plans are laid to develop two of the HSET courses for on-line enrollment. Eighty percent of the remaining courses are offered as mixed delivery with FerrisConnect being used to enhance the students' experiences.

g. Discuss how the information presented in (a) through (f) impacts the curriculum, scheduling and/or delivery methods in the program.

Classes in Ferris's Heavy Equipment programs are typically held Monday through Friday, 8:00 a.m. to 6:00 p.m. The combination of this time schedule and the fact that the students are full-time, the curriculum, course scheduling and information delivery methods work very well.

2) Quality of Students

a. What is the range and average of all students currently enrolled in the programs? Comment on this data.

	HEQT		HSET	
	AVE	RNG	AVE	RNG
GPA	2.72	1.49 – 3.78	2.66	1.85 – 3.61
ACT	19.50	14 - 30	19.43	13 - 29

b. What are the range and average GPAs of students graduating from the programs? ACT? Comment on this data.

	HEQT		HSET	
	AVE	RNG	AVE	RNG
GPA	2.76	2.14 – 3.83	3.06	1.99 – 3.80
ACT	19.83	15 - 25	19.64	16 - 25

c. In addition to ACT and GPA, identify and evaluate measures that are used to assess the quality of students entering the programs.

Student who attended Heavy Equipment programs in Career-Technical Centers or comprehensive High Schools have the opportunity to articulate coursework if they meet the following conditions:

1. The student has passed the ASE exam for the area.
2. The student has the recommendation of her/his Instructor.

- d. Identify academic awards, e.g., scholarships or fellowships, have students in the program earned?**

Data not available at time of writing.

- e. What scholarly/creative activities, e.g., symposium presentations, other presentations or awards, have students in the program participated in?**

Data not available at time of writing.

- f. What are other accomplishments of students in the program?**

Data not available at time of writing.

3) Employability of students

- a. How many graduates have become employed full-time in the field within one (1) year of receiving their degree? Comment on this data.**

There is opportunity for every graduate to gain employment within the industry upon graduation provided they do not limit their opportunities through personal preferences such as geographical location.

In the heavy equipment industry, there is a desperate need for skilled heavy equipment technicians. This past June (2010), we had listings for 28 positions that we did not have graduates available to fill.

- b. What is the average starting salary of graduates who become employed full-time in the field since the inception (for new programs) or the last program review? Compare with regional or national trends.**

HSET (B.S., 2002 - 2007)	<u>\$37609.20</u> per year
HEQT (A.A.S., 2002 - 2007)	<u>\$50751.20</u> per year

(These averages do not include data from 2005 – 2006 graduate follow up survey information at the time of this report it was not available for research). Our Graduates are employed regionally and nationally so starting salary is a clear representation of regional and national trends.

- c. How many graduates have become employed as part-time or temporary workers in the field within one year of receiving their degree? Comment on this data.**

Unknown. Typically graduates are hired as full-time employees. No information has been provided to the department pertaining to part-time employment for program graduates.

d. Describe the career assistance available to the students. What is student perception of career assistance?

The Heavy Equipment faculty is contacted regularly by companies and individuals seeking future employees. Contact to the Department of Heavy Equipment Technology office is either by telephone, facsimile, e-mail and on-campus Career Fairs. This employment information is disseminated to the faculty and students via e-mail and a job posting board located in the first floor hallway of the Heavy Equipment building. Students are fully aware of this process. Students will also contact the department office directly to inquire about available employment opportunities in a certain geographical area. Inquiries coming directly to the department are also forwarded to the Student Employment and Career Services Office to be posted electronically for current students and registered program alumni to view. As part of the recruiting process, companies provide technical presentations to introduce students to their particular organization. Facilities for on-campus interviews are available and heavily utilized by visiting recruiting companies.

Career Guidance is done on an individual basis through a variety of mechanisms. The University support is through the Student Employment and Career Services Office. Information may be found on the following web link:

The School of Automotive and heavy equipment maintains and email listing of all current students and alumni. All employment opportunities, made known to the school, are distributed to the mailing list. This ensures that all students are aware of career opportunities as soon as they become available.

e. How many graduates continue to be employed in the field? Comment on this data.

Information on this question has not been officially obtained. It is expected that program alumni remain employed in the heavy equipment industry in one capacity or another. The current demand for heavy equipment personnel makes it relatively easy for a skilled heavy equipment technician to change employment positions.

f. Describe and comment on the geographic distribution of employed graduates.

Our graduates are employed regionally, nationally and international students return to their homeland for employment.

g. How many students and/or graduates go on for additional educational training? (Give annual average.) Comment on this data.

Data not available at time of writing.

h. Where do most students and/or graduates obtain their additional educational training? Comment on this data.

Data not available at time of writing.

B. ENROLLMENT

1) What is the anticipated fall enrollment for the program?

Enrollment for Fall 2010-2011 is 106 students

2) Have enrollment and student credit hour (SCH) production increased or decreased since the last program review? Supply a table and comment on any enrollment trends.

Enrollment has continued to grow in the heavy equipment programs. The table below indicates the enrollment trends for the past five (5) years.

Enrollment Trends for the Past Five (5) Academic Years

Source: FSU Institutional Research & Testing

Heavy Equipment	2005 – 2006	2006 – 2007	2007 – 2008	2008 – 2009	2009 - 2010
HSET		30	25	35	40
HEQT		47	63	74	65
Pre-HEQT		0	1	0	0
Pre-HSET		5	7	1	1

3) Since the last program review, how many students apply to the program annually?

4) Of those who apply, how many and what percentage are admitted?

5) Of those who are admitted how many and what percentage enroll?

6) What are the program’s current enrollment goals, strategy and efforts to maintain/increase/decrease the number of students in the program? Please comment.

- To increase the A.A.S. degree to 120 students to allow for a Spring start and to increase the B.S. degree also to 120 students by developing articulation agreements with accredited community college programs around North America.
- Maintain program web site: One of the best ways for potential students, parents and employers to find information about the program.
- Post news releases about heavy equipment program happenings on Facebook/Twitter: Another good way to promote the programs to potential students, parents and employers.

- Annually promote and attend FSU CET Dawg Days: The HEQT Department participates in this University activity.
- Annually host the SkillsUSA heavy equipment state competition for high school and secondary students and instructors: One of our most successful marketing/recruiting activities, the Heavy Equipment department has hosted this activity for over 30 years.
- Attend Con-Ag Expo every 3 years to showcase the programs to program alumni and industry.
- Continue recruiting visits to secondary/post-secondary educational institutions. Activity is ongoing and will continue in the 2010/11 academic year.
- Recertify the Heavy Equipment Technology A.A.S. through NATEF, 2010.

C. PROGRAM CAPACITY

1) What is the appropriate program enrollment capacity, given the available faculty, physical resources, funding, accreditation requirements, state and federal regulations and other factors?

- Heavy Equipment Service Engineering Technology, B.S. degree
Capacity - 30 students
- Heavy Equipment Technology, A.A.S. degree
Capacity - 60 students

2) Which of these items limits the program enrollment capacity?

Number of faculty.

3) Please explain any differences between capacity and current enrollment?

Presently, there is no difference.

D. RETENTION AND GRADUATION

1) Give the annual attrition rate (number and percent of students) in the program.

HEET 200408	Year 2	Year 3	Year 4	Year 5	Year 6
% Graduated By	0	62	81	90	90
% Still Enrolled In	95	33	14	5	5
% Persisters	95	95	95	95	95

% Non-Persisters	5	5	5	5	5
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2) What are the program’s current goals, strategy and efforts to retain students in the program?

The Heavy Equipment Technology program strives to continuously assess whether the educational objectives of the program are well-aligned with the needs of industry and students are progressing. Assessment is done by staying in constant dialog with students, alumni and employers with regard to the program. The Heavy Equipment Technology program uses a three-pronged approach to achieve this assessment:

Industrial Advisory Board: The HEQT Industry Advisory Board is a group of employers and alumni that meets twice a year to discuss the program as well as trends in the industry that will affect graduates in the future. Performance of graduates in key areas is reviewed to determine whether educational objectives are being met.

Surveys: The HEQT department surveys students, faculty, employers, alumni and advisory board members every six years as part of the Academic Program Review cycle. These surveys are used to sample an even wider cross section of industry for the purpose of assessing whether educational objectives are being met. Please the Survey Instrument, Frequency Statistics and Comments at the back of this section for each constituent group list above.

Con-AG Exposition, USA: The HEQT department actively participates in the Con-AG (Construction-Agriculture) Exposition to further interact with industry to assess future industry trends and obtain feedback from alumni on how well program educational objectives are met.

These measures allow the HEQT program to assess whether program objectives are in line with industry needs and if graduates are well-prepared to successfully meet these objectives.

3) Describe and assess trends in the number of degrees awarded in the program.

The number of degrees has remained constant over the last eighteen years.

4) How many students who enroll in the program graduate from it within the prescribed time? Comment on any trends.

Data not available at time of writing.

5) On average, how long does it take a student(s) to graduate from the program? Please comment.

- Heavy Equipment Technology A.A.S. degree: 2.5 years
- Heavy Equipment Service Engineering Technology B.S. degree: 4.5 years

These time durations are estimates based on the fact that many factors are involved. A student may attend Ferris and take general education and/or remedial courses prior to entering the program. Transfer students enter Ferris with courses already completed. The best indicator of student degree obtainment could be realized from Retention to Graduate Rates found in 3.D.4.

E. ACCESS

1) Describe and assess the program's actions to make itself accessible to students.

Use examples such as off-site courses, accelerated courses or other types of flexible learning, use of summer courses, multiple program entry points, e-learning, mixed delivery courses, scheduling.

Delivery modes used by this program are a combination of conventional lectures and laboratory courses offered Monday through Friday, typically 8:00 a.m. until 6:00 p.m. Various courses have an element of "web-based" content as created by the particular faculty teaching the course and the use of the Ferris State "FerrisConnect" web tool. All courses are taught on the Ferris State University Big Rapids, MI campus. HEQT/HSET courses are available in the Fall or Spring semesters only, with an internship (practicum) between the freshman/sophomore and junior/senior years which is done in the Summer semester.

2) Describe what effects the action's described in (1) have had on the program. Use examples such as program visibility, market share, enrollment, faculty load, computer and other resources.

The program maintains its high standard of quality, technical education with a curriculum offering laboratory experiences to enhance the classroom experience.

3) How do the actions described in (1) advance or hinder program goals and priorities.

Program goals and priorities are not presently hindered.

F. CURRICULUM.

The curriculum review section must also contain appropriate check sheets and example syllabi, which may be attached as an appendix.

1) Program requirements. Describe and assess the program-related courses required for graduation.

The educational objectives of the Heavy Equipment Technology A.A.S. degree and the Heavy Equipment Service Engineering Technology B.S. degree programs align themselves very well with the newly developed University Mission Statement. As the world continues to move toward a “global society”, it is imperative that students graduating from Ferris are well-prepared to encounter the ever-changing environment of business and industry. The curriculum of the department programs, in conjunction with the University General Education policy, insures graduates are ready to meet the challenges the world will offer. Information pertaining to the curriculum of the department programs can be found in the pages at the end of this section. A list of the curriculum materials included is stated below and can be found in this section.

- Programmatic marketing brochure
- Heavy Equipment Service Engineering Technology B.S. degree Curriculum Guide Sheet
- Heavy Equipment Service Engineering Technology B.S. degree Course Descriptions
- Heavy Equipment Technology A.A.S. degree Curriculum Guide Sheet
- Heavy Equipment Technology A.A.S. degree Course Descriptions
- Ferris State Graduation Check Sheet for General Education requirements

- a. As part of the graduation requirements of the current program, list directed electives and directed General Education courses. Provide the rationale for these selections.**

The table below indicates the “directed General Education” and “directed electives” courses.

- b. Indicate any hidden prerequisites (instances where, in order to take a program required course, the student has to take an additional course. Do not include extra courses for remedial purposes.)**

No hidden prerequisite courses exist. All course requirements are clearly stated on the program check sheets.

- 2) Has the program been significantly revised since the last review, and if so, how?**

The only change has been to replace MATH 116 with MATH 115 to better serve the needs of our transfer students.

- 3) Are there any curricular or program changes currently in the review process? If so, what are they?**

Yes. Change in Quantitative Skills:

- Change from MATH 116 Intermediate Algebra & Numerical Trigonometry to MATH 115 Intermediate Algebra.
- Change from MATH 126 Algebra & Analytical Trigonometry to MATH 120 Trigonometry

4) Are there plans to revise the current program within the next three (3) to five (5) years? If so, what plans are envisioned and why?

Yes. We will be examining the entire curriculum to include technological advancements.

G. QUALITY OF INSTRUCTION

1) Discuss student and alumni perceptions of the quality of instruction.

Surveys contained in Section 2 indicate that the quality perception of faculty and students as to the quality of instruction is excellent. Various questions on the surveys are related to this topic.

2) Discuss advisory committee and employer perceptions of the quality of instruction.

Surveys contained in Section 2 indicate that the quality perception of faculty and students as to the quality of instruction is excellent. Various questions on the surveys are related to this topic.

3) What departmental and individual efforts have been made to improve the learning environment, add and use appropriate technology, train and increase the number of undergraduate and graduate assistants, etc.?

The faculty is constantly striving to improve the quality of instruction. As technology has been implemented in to the available instructional spaces on campus, the department faculty has adapted their teaching styles and methods. Faculty is actively using the FerrisConnect system.

The department does not utilize undergraduate or graduate assistants. All courses are taught by tenure-track faculty. Student lab tutors are sometimes used throughout the curriculum and are funded by the Academic Support Center.

4) Describe the types of professional development the faculty have participated in, in efforts to enhance the learning environment (e.g., Writing Across the Curriculum; Faculty Center for Teaching and Learning, etc.).

The faculty is very diligent in professional development activities. Please reference faculty resumes in Section 5 for a list of activities.

5) What efforts have been made to increase the interaction of students with faculty and peers?

Include such items as developmental activities, seminars, workshops, guest lectures, special events and student participation in the Honors Symposium.

Below is a list of items done on annual basis to promote interaction between the faculty and students.

- SkillsUSA Competition: enter description of competition
- The annual College of Engineering Technology Student Welcome Picnic: This event is where the faculty serves the students. Music, food and prizes are distributed by faculty to the students attending the function.
- Corporate Presentations: The department works in conjunction with the Career Service & Employment Office to bring potential employers to campus for Informational Sessions. Typically these sessions are held in the evening with food and refreshments being served. The objective is to introduce the students to the employment opportunities and scope of work done by a particular corporate organization.
- Are there any additional things that can be placed here? For example, things the Association of Heavy Equipment Technology does, like a periodic cook-out.

6) Discuss the extent to which current research and practice regarding inclusive pedagogy and curriculum infuse teaching and learning in this program.

The current group of department faculty has a combined 85+ years of teaching experience in the Ferris heavy equipment programs. Each faculty members has their own unique teaching styles and strategies. A students' perception of learning depends directly on their interest, pedagogical affect and- their learning performance and indirectly on the student-instructor interaction, the instructor's responsiveness, course organization, the instructor's likeability/concern and the student's learning performance. Likeability/concern indirectly affects student interest by influencing learning performance. The results yield recommendations for schools, department heads and university administrators.

7) What effects have actions described in (5) and (6) had on the quality of teaching and learning in the program?

Students receive a diverse educational experience by being exposed to all members of the department faculty at one point or another throughout their time at Ferris. This diversity in teaching styles requires students to adapt to the particular course, much

like they must adapt to a particular leadership style they may encounter in business & industry.

H. COMPOSITION AND QUALITY OF FACULTY.

Describe and assess the composition of the faculty teaching courses in the program. Please reference faculty resumes in Section 5 for complete faculty information.

1) List the names of all tenured and tenure-track faculty by rank.

a. Professor

Keith Cripe

b. Associate Professor

Gary Maike

c. Assistant Professor

John Strohkirch
Darren Wilson
Jerome Zmyslowski

2) Identify their rank and qualification

Keith Cripe, Professor, Program Coordinator

Gary Maike, Assistant Professor

John Strohkirch, Assistant Professor

Darren Wilson, Assistant Professor

Jerome Zmyslowski, Assistant Professor

3) Indicate the number of promotions or merit awards received by program faculty since the last program review.

Summarize the professional activities of program faculty since inception of the last program review (attendance at professional meetings, poster or platform presentations, responsibilities in professional organizations, etc.).

4) Workload

a. What is the normal, annualized teaching load in the program or department?

Indicate the basis of what determines a “normal” load. On a semester-by-semester basis, how many faculty have accepted an overload assignment.

The table below indicates a semester-by-semester basis the overloads, adjuncts and outside department faculty that have taught HEQT/HSET courses. Please see Appendix B for complete details of faculty teaching loads.

The Faculty Workload is determined by the Office of the Provost and Vice President of Academic Affairs policy letter below:

ANNUALIZED WORKLOAD FOR INSTRUCTIONAL FACULTY: July 25, 2007 **98:1** REVISED

1. All examples will be based on a standard workload of 24 semester hours per academic year, excluding Summer (recognizing the differences between colleges and between department within colleges, 24 hours shall neither be a minimum nor a maximum).
2. No more than two-thirds (2/3) of an annual workload will be assigned in any one semester unless the member agrees. On a semester hour basis, where 24 hours is the standard workload, sixteen (16) semester hours would be two-thirds (2/3) of an annualized load.
3. A member with a full workload, including released time, may teach a maximum of five (5) overload credit hours per semester under this policy.
4. If the department head/chair can document to the dean that a faculty member in his or her college will be assigned and has agreed to teach an overload in the fall semester and will have a full load or an overload in the spring semester, the fall overload will be paid during the fall semester.

b. List the activities for which faculty receive release time.

Program Coordinator, 25%

5) Recruitment

a. What is the normal recruiting process for new faculty?

Posting on FSU Career Opportunities
Advertising in national publications

b. What qualification (academic and experiential) are typically required for new faculty?

The successful candidate will have a Master's degree upon hiring.

c. What are the program's diversity goals for both gender and race/ethnicity in the faculty?

The department has not established a set of goals for these areas but follows the guidelines as set forth by Ferris State University's Office of Human Resources and the Diversity and Inclusion Office.

d. Describe and assess the efforts being made to attain goals in (c).

Ferris State University is sincerely committed to being a truly diverse institution and actively seeks applications from women, minorities, and other underrepresented groups. For more information about Ferris State University, please visit the web site at www.ferris.edu. An Equal Opportunity/Affirmative Action employer.

6) Orientation. Describe and assess the orientation process for new faculty.

A new faculty member in the department has constant guidance from the department tenure-track faculty. A department faculty is assigned as a mentor for the new hire to consult with on a regular basis. The department has established a list of academic topics that are discussed with the new hire during their first year. No student advisees are assigned to the new hire during the first academic year. The new hire is also expected to participate in University sponsored events for new faculty.

7) Reward Structure: e.g., salary, professional development funds, travel funds, Faculty Center for Teaching & Learning, College of Professional & Technical Studies (CPTS) incentive money.

a. Describe the reward structure in the program/department/college as it relates to program faculty. Indicate the type of reward and eligibility criteria.

Financial compensation to the faculty abides by the College of Engineering Technology, University and/or Ferris Faculty Association guidelines.

b. Does the existing salary structure have an impact on the program's ability to recruit and retain quality faculty?

The existing salary structure certainly plays a significant role in the hiring process. Many applicants are interested in a faculty position until they become aware of the compensation package. With that being considered, the department has been very successful in obtaining quality faculty members.

c. Is the reward structure currently in place adequate to support faculty productivity in teaching, research and service? If not, what recommendations would you make to correct the situation?

- d. **Is enhancing diversity and inclusion a component of the reward structure. Please explain.**

8) Graduate Instruction (if applicable)

The Heavy Equipment Engineering Technology Department does not offer, nor teach any graduate level academic courses. Thus, Section 3.H.6 is not applicable.

9) Non-Tenure and Adjunct Faculty

- a. **Please provide a list for the last academic year of full-time non-tenure track and adjunct faculty who taught courses in the program.**

For full-time non-tenure track faculty, indicate the length of their appointments and the number of years of service at the University. Comment on the program's ability to retain non-tenure track faculty.

The Heavy Equipment Engineering Technology Department did not employ any full-time non-tenure track faculty or adjunct faculty over the last academic year.

- b. **What percentage of program courses is taught by the faculty in (a)? What courses are they teaching? Please comment.**
- c. **Describe the required qualifications (academic and experiential) for the faculty listed in (a). Indicate if all faculty have met the criteria, and if not, what is being done to resolve the situation?**
- d. **Does the program consider the current use of non-tenure track faculty to be appropriate? Why or why not?**
- e. **If the program is accredited, what position if any does the accreditation body have regarding the use of non-tenured and adjunct faculty?**

The programs accreditation bodies do not have position on the use of non-tenured or adjunct faculty.

I. SERVICE TO NON-MAJORS.

Describe and assess the impact that delivery of service courses offered by the program or the department has on the program.

- 1) **Identify and describe the General Education service course provided by the program faculty for other departments at Ferris State University.**

FSUS 100 is the only General Education course taught by department faculty.

- 2) Identify and describe non-General Education service courses or courses required for other programs. Comment on your interaction with the departments or programs for which the courses are provided.**

HEQT 200 - Planned Maintenance Systems.

Required of College of Business students enrolled in the Fleet Management Certificate/Minor program.

HSET 302 - Fleet Management

Required of College of Business students enrolled in the Fleet Management Certificate/Minor program.

- 3) Discuss the impact of the provision of the General Education and non-General Education courses has on the program.**

The impact of department faculty providing General Education and non-General Education courses is minimal. The only General Education course is taught in one (1) section of FSUS 100 in the fall semester. The non-General Education courses are HEQT 200 Planned Maintenance and HSET 302 Fleet Management.

The lecture/lab times for HEQT 200 are scheduled in the morning to fit the schedule of the students and the teaching faculty.

- 4) Does the program plan to increase, decrease or keep constant its level of service courses? Explain.**

The department will continue to meet the needs of the campus community as needed.

J. DEGREE PROGRAM COST AND PRODUCTIVITY DATA.

K. ASSESSMENT AND EVALUATION.

Describe and evaluate the program's assessment mechanisms.

- 1) List and describe what variables are tracked and why when assessing the effectiveness of the program (e.g., mastery of essentials of subject area, graduation rates, employment rates, pass rates on professional exams).**
- 2) Provide trend data for the variables listed in (1). Compare the data to accreditation benchmark standards if applicable or provide some other type of assessment of the data.**
- 3) Describe how the trend data in (2) is used to assess the rigor, breadth and currency of the degree requirements and curriculum.**

4) Describe how the trend data in (2) is used to assess the extent to which program goals are being met.

Assessment of Program Educational Objectives

- **Industrial Advisory Board:** The HEQT Industry Advisory Board is a group of employers and alumni that meets at least once a year to discuss the program as well as trends in the industry that will affect graduates in the future. Performance of graduates in key areas is reviewed to determine whether educational objectives are being met.
- **Surveys:** The HEQT department surveys students, faculty, employers, alumni and advisory board members every six (6) years as part of the Academic Program Review cycle. These surveys are used to sample an even wider cross section of industry for the purpose of assessing whether educational objectives are being met. Please see the Survey Instruments.

These measures allow the HEQT/HSET programs to assess whether program objectives are in line with industry needs and if graduates are well-prepared to successfully meet these objectives.

- Evaluation of Program Educational Objectives
- Assessment of Program Outcomes
- Evaluation of Program Outcomes
 - a. **Student Retention and Graduation Rates:**
 - b. **Pre/Post Testing:**
 - c. **Job Placement**

L. ADMINISTRATION EFFECTIVENESS

1) Discuss the adequacy of administration and clerical support for the program.

The support of the department programs by the university community is acceptable to achieve the program educational objectives and outcomes.

2) Are the program and/or department run in an efficient manner. Please explain.

Yes. The department makes every effort to be responsible stewards of the provided University funds. The programs are operated to the highest standards within the scope of the available financial resources.

**3) Are class and teaching schedules effectively and efficiently prepared?
Please comment.**

The department course schedule are created and modified by the faculty in conjunction with University policy. Course scheduling decisions take in to consideration the need for students and faculty to operate effectively and efficiently.

Section 4: Facilities and Equipment

A. INSTRUCTIONAL ENVIRONMENT

- 1) Are current classrooms, labs and technology (both on-campus and off-site locations) adequate? Please explain.**

The Heavy Equipment Center was designed specifically for an educational program involved in the maintenance and repair of medium and heavy duty trucks and construction, agriculture, forestry, mining, and marine equipment. The building hosts a one hundred and twenty seat lecture hall, six laboratories for the study of specific vehicle systems and their components and parts, a twenty five bay vehicle laboratory, and a computer lab. The building has office facilities for fourteen faculty members, and a main office. The program has accommodated as many as two hundred students in the past.

- 2) Describe how proposed changes or improvements to facilities would enhance program delivery.**

Over the past several years, lecture areas have been formed within the system labs. The course schedule was also configured to feature lectures followed immediately by the corresponding lab. The adaptation of the facility to compliment the course schedule resulted in a less than optimum utilization of the facility. The process of returning the building to its original design has begun. Lecture sections are being scheduled in the lecture hall for optimum delivery and acoustics.

B. COMPUTER ACCESS AND AVAILABILITY

- 1) Outside of computers in faculty and staff offices, identify the computing resources (hardware and software) that are allocated to the program.**

The facility houses a computer lab that currently has eighteen personal computers available for use. We are currently working to expand that number to twenty or twenty two as space allows. The computers are equipped with the regular productivity software for student use. They are also loaded with course specific software for Troubleshooting, Planned Maintenance, and Fleet Management.

The program also has four to five laptops and portable PCs used for information reference and communications with vehicle on-board systems. These systems are loaded with Original Equipment Manufacturer software for engine control, communications, and repair and maintenance.

- 2) Discuss how these resources are used.**

Several courses have laboratory assignments which involve the use of the specific software. Students are also required to complete homework assignments using the same software and the lab is available, outside of class times, from morning to late night. The access to the lab also allows for students to use the facility for studying and using the systems to complete coursework for all their classes.

3) Discuss the adequacy of those resources and identify needed additional resources.

We can never have too many computers or sufficient space for them, can we? Perhaps the best solution to this problem is to become a "Laptop University". Advances in wireless internet access have set the stage for the possibility of each student having her/his own PC. This would remove the burden of cost, facility, and maintenance from the institution. With the computer lab rendered obsolete, the program could direct its resources to supplying dedicated specialty units.

4) Does an acquisition plan to address these needs currently exist? Describe the plan. Has it been included in the department of college's planning documentation.

The College of Engineering Technology considered becoming a "Laptop College" but determined the cost of supplying course specific software to the students was cost prohibitive. The survey and resulting inventory of software included labels used for program management and other functionality which would not be necessary to distribute to the students. Also, I do not believe that passing the cost of the software, similar to textbook purchases, on to the student was examined.

Outside of this possibility, the program participates in the Universities program for maintaining the freshness of the PCs in the lab.

5) Discuss the efficacy of online services (including FerrisConnect) available to the program.

Approximately eighty percent of the Heavy Equipment courses utilize blended delivery with FerrisConnect enhancing the face-to-face delivery. Great strides have been made to the ease of use and connectivity since the early days of WebCT. This is greatly evident in the reduction of student complaints concerning FerrisConnect. The Heavy Equipment faculty are using FerrisConnect with their summer Internship students for the submission of weekly reports, final projects, and communication.

6) Discuss the adequacy of computer support, including the support for on-line instruction if applicable.

We have received nothing but excellent service from TAC with all our computer support. The faculty Center for Teaching and Learning have also been invaluable in providing support for instructional technology.

C. OTHER INSTRUCTIONAL TECHNOLOGY

1) Identify other types of instructional technology resources that are allocated or available to the program.

One of the largest challenges a technically oriented program faces is maintaining laboratory equipment which is representative of the current industry standard. In Heavy Equipment, this means not only the tools and equipment that are common to the maintenance and service industry, but also the vehicles and equipment that are the clients of the industry. This poses a huge fiscal concern when trying to offer the students a meaningful experience.

2) Discuss how these resources are used.

The tools, equipment, and vehicles described in C.1. are used to provide the students with a valuable laboratory experience. Lab experiences are coordinated with the lectures for the class allowing a positive transfer of learning as the student applies the theory from lecture to the practice of the lab. Without proper, current lab equipment, this is very difficult to attain.

3) Discuss the adequacy of these resources and identify needed additional resources.

Our current collection is growing old, and many comments were made in the student and graduating student surveys. The faculty is very active and successful in recruiting donations from industry. Until the economic and funding crisis in Michigan are resolved, we will have to depend upon the generosity of industry.

4) Does an acquisition plan to address these needs currently exist? Describe the plan. Has it been included in the department of college's planning documents?

The program does have a plan in place to increase contributions utilizing alumni across Industry. We currently need to bolster the availability of agricultural equipment, for instruction, so this year we will be focusing on that.

D. LIBRARY RESOURCES

Once again, we would like to thank our exceptional FLITE liaison, Ms. Fran Rosen for authoring the responses in this section.

1) Discuss the adequacy of the print and electronic and other resources available through FLITE for the program.

FLITE subscribes to relevant automotive and heavy equipment trade journals and publications. Many periodical titles are available through major databases at FLITE,

including ABI Inform (Business and Industry, including broad and deep coverage of the Technology industry) and General Onefile (broad general coverage). Business and company information is available from Gale Business and Company Resource and Lexis-Nexis Academic Universe.

FLITE also subscribes to DieselNet, a focused resource on diesel technology and diesel engines.

Individual book items, including reference books and industry/government standards, are purchased upon request by faculty in the Heavy Equipment programs.

2) Discuss the service and instructional availability provided by the Library faculty and staff with respect to the needs of the program.

A FLITE librarian is assigned to be library liaison to the College of Engineering Technology. She is available to visit classrooms to demonstrate library resources, or to provide library instruction in a FLITE Instruction studio. She can also meet with students and faculty to help determine resources required for projects and research, and can assist in acquiring these materials.

Computers on the East side of the 2nd floor of FLITE are reserved for use by students in the College of Business and the College of Engineering Technology. These computers have software that students might need for their assignments. Computers in the FLITE extended study area also have relevant software available.

Students can use FLITE computers and study rooms, and can receive assistance from Reference Librarians at the Oval Information Desk. Students in FSUS 100 have one class meeting in FLITE, with an Introduction to the Library presentation and a library tour.

3) Discuss the impact of the budget allocation provided by FLITE to your program. Is the budget allocation adequate? Explain.

The budget allocation has been adequate for acquisition of materials to support the Heavy Equipment programs.

Section 5: Conclusions

Conclusions based on data analysis derived from Sections 2 -4 and on the collective wisdom and judgment of the PRP. In arriving at these conclusions, the PRP should summarize the relationship of the program to each of the following specific categories it deems appropriate.

A. RELATIONSHIP TO FSU MISSION

1) FSU MISSION STATEMENT:

Ferris State University prepares students for successful careers, responsible citizenship, and lifelong learning. Through its many partnerships and its career-oriented, broad-based education, Ferris serves our rapidly changing global economy and society.

2) HEAVY EQUIPMENT CONTRIBUTION

The Heavy Equipment program prepares students for success by maintaining a career oriented focus. Hiring practices, faculty development, facility utilization, and curriculum structure are all driven by industry standards. With placement rates nearing one hundred percent, our program is held in extremely high regard across industry. From trucking and shipping to construction, agriculture, power generation, and forestry, businesses nationwide have benefitted from the preparation FSU graduates received.

Our program goals and curricular structure ensure our students receive extensive instruction in current technology. Emphasis is continually placed on the importance of keeping pace with technological advances and the importance of seeking and participating in manufacturer based, instructional opportunities.

Expanding upon the mission statement, the Ferris vision statement identifies our desire to be a recognized leader in integrative education. When asked to describe a setting conducive to integrative learning, author and integrative education leader Barbara Clark states, "The environment is much like a laboratory or workshop: rich in materials with simultaneous access to many learning activities. The emphasis is on experimentation and involvement." This has been the approach of the Heavy Equipment program for over fifty years, and is one of the fundamental pedagogies on which Ferris State university was founded.

B. PROGRAM VISIBILITY AND DISTINCTIVENESS

1) NATEF CERTIFICATION

The National Automotive Technicians Education Foundation (NATEF) is the branch of the National Institute for Automotive Service Excellence (ASE) responsible for maintaining standards for technician education and for the certification of Automotive and Medium/Heavy Duty Truck programs. NATEF accredits both secondary and post secondary-programs. Secondary programs are required to be certified in at least six areas of expertise, or to have an articulation agreement in place with a post-secondary program which is certified in all eight areas. By maintain our NATEF certification; we serve as the articulating institution for most of the secondary programs in Michigan. This service, provides incredible visibility to these future students.

3) AED CERTIFICATION

“Associated Equipment Distributors” is an international trade association representing companies involved in the distribution, rental and support of equipment used in construction, mining, forestry, power generation, agriculture and industrial applications.

Our 700 distributor member companies account for over \$15 billion of annual sales of construction equipment and related supplies and services in the U.S. and Canada. Our average distributor member achieves over \$46 million per year in revenues, and employs 90 people.” *Aednet.org, 2010*

One important means of support that AED provides their members is the accreditation of Heavy Equipment Technology, educational programs. Currently there are twenty-two programs in sixteen states accredited by AED. Ferris State University has the only accredited baccalaureate program.

4) UNIQUENESS

Ferris State’s Heavy Equipment program is the only post-secondary program in the State of Michigan that is NATEF certified. Furthermore, we are the only State University in the Great Lakes region to offer Heavy Equipment Technology. Also, the Heavy Equipment Service Engineering Technology program is the only baccalaureate program, in Heavy Equipment, in the country.

Information provided by NATEF, indicates a total of fifteen post-secondary programs in Michigan, Wisconsin, Illinois, Indiana, Ohio, and Pennsylvania.

There are nine AED accredited programs in the same area.

5) NAFA

Ferris State University has formed a partnership with the National Association of Fleet Administrators, Inc. (NAFA). “NAFA is the world's premier not-for-profit association for professionals who manage fleets of sedans, public safety vehicles, trucks, and buses of all types and sizes, and a wide range of military and off-road equipment for organizations across the globe. NAFA is the association for the diverse vehicle fleet management profession regardless of organizational type, geographic location, or fleet composition. NAFA's Full and Associate Members are responsible for the specification, acquisition, maintenance and repair, fueling, risk management, and remarketing of more than 3.5 million vehicles including in excess of 1.1 million trucks of which 350 thousand are medium- and heavy-duty trucks.”

... www.nafa.org

6) SKILLS USA

The Heavy Equipment Technology Center has hosted the regional High School completion and participated in the Skills USA competition for approximately twenty years.

C. PROGRAM VALUE

1) NATURE OF THE PROGRAM

The current economic state of Michigan, causing ever diminishing funding of higher education, has created an environment in which enrollment is the single most important factor for solvency. To achieve continued growth it is critical that Ferris continues to be Ferris. In a state already over-populated by “cookie cutter” universities, growth will only be realized by those with something unique to offer prospective students.

Ferris State University was founded as a career oriented institution. The Heavy Equipment program exemplifies this mission, as it has for the previous fifty four years. The curricula of the Associate’s and Baccalaureate degree are centered on the objective of producing career ready graduates.

The A.A.S. in Heavy Equipment Technology prepares students to enter the medium and heavy duty truck, agriculture, construction, forestry, power generation, mining, and marine maintenance industries. In addition, it prepares students wishing to advance the back ground technical expertise needed to matriculate into the Heavy Equipment Service Engineering Technology degree, Career-technical Education, and technical Writing baccalaureates. The vast majority of Heavy Equipment Instructors at the secondary/Career-Technical Centers are Ferris grads. The role this plays in encouraging and recruiting high school students to Ferris is immeasurable.

The B.S. degree in Heavy Equipment Service Engineering Technology is the only baccalaureate in the United States in Heavy Equipment. Employers seeking candidates with educational experience in management and manufacturing to bolster their technical expertise in Heavy Equipment Technology are finding the personnel they seek among our graduates. The program is actively establishing articulation agreements with other accredited Heavy Equipment programs at the community college level.

2) SHOWCASE FACILITY

The facility, simply put, is a showcase for technical education. A one hundred and twenty seat lecture hall provides a state-of-the-art amenities with wireless control. Unique to the HEC 202 are complete coolant, fuel, and exhaust gas ventilation systems which allow the operation of an engine within the classroom. The room also has an overhead door to facilitate location and relocation of large objects.

The Heavy Equipment Center also includes six laboratories to allow for hands-on experiences with the various parts and components relevant to each area of study. These lab spaces include: the Transmission and Drive line lab, the Brakes and Hydraulics lab, the Multipurpose lab, the Fuels lab which contains four clean rooms for fuel injector pump testing, the Engines lab, and the Power Generation and

Transport Refrigeration lab. Also existing in the facility is a twenty seat computer lab for instructional and student co-curricular use.

Finally, the Center has the Vehicle and Equipment lab which offers space for the students to experience working on whole vehicles and pieces of equipment.

In summary, the facility is a showcase as a dedicated purpose, technical education facility designed to maximize its impact across the three domains of learning

3) PROGRAM VALUE TO EMPLOYERS

The Heavy Equipment Program enjoys a direct link to employment. Unlike the traditionally, purely academic programs, everything we do is directly linked to the needs of employers and the vocational success of our students. Because of this absolute direct application, there is no question as to the value of the program to employers. We instruct specifically and exactly to the needs of the employers of our graduates. We enjoy a very active Advisory Committee representing several of some of the major employers of our students. The dedication of the faculty to this mission colors their assessments of the various program components and is evident in question number three of the faculty survey.

D. ENROLLMENT

Since 1992, the program enrollment has averaged 102 students per academic year. The lowest enrollment occurred in the 1993-1994 academic year (75) and the highest (147) was enjoyed in 1997-1998. The Heavy Equipment program begins the 2010-2011 school year with 103 students.

E. CHARACTERISTICS, QUALITY AND EMPLOYABILITY OF STUDENTS

While the demographics of our student charts as students vertical line, they are a very dedicated, career oriented group. As we currently attract students from mainly the west-central region of the state, most have trucking, agriculture, forestry, and construction equipment backgrounds and benefit from a pre-existing familiarity with one or more facets of the Heavy Equipment industry. This exposure as allowed them to develop a very deeply seated career aspiration which greatly enhances their motivation and dedication to their studies. Upon graduation, the resulting quality is evident to potential employers.

F. QUALITY OF CURRICULUM AND INSTRUCTION

1) CURRICULUM

The Heavy Equipment curriculum is based upon the requirements of our accrediting bodies, NATEF and AED, and also our Industry partner, NAFA. Enhancements to this curriculum are recommended by our industrial advisory committee, developed by faculty and approved through the curriculum change process.

2) INSTRUCTION

The program is fortunate in receiving considerable, faculty initiated donations from industry. This allows the curriculum to remain fresh and in-sync with technological advances. The faculty are also very active in incorporating the most recent instructional technologies and pedagogy. All are ASE certified and experienced in the areas they teach.

G. COMPOSITION AND QUALITY OF THE FACULTY

The Heavy Equipment faculty is currently undergoing many changes. Former Program Coordinator and Department Chair Keith Cripe retired after forty one years of service to the University. Two weeks before the 2010-2011 academic year began, Assistant Professor Jerry Zmyslowski was involved in an automobile accident. Depending on the length of his recovery, he may retire rather than return to the classroom.

The remaining three professors are alumni of the Ferris State University Heavy Equipment program and have various backgrounds in the Heavy Equipment industry, which complement the subjects they teach.