Section 1

Program Overview

A. Program Goals

1. **State the goals of the program.**

   1. To provide students with the knowledge and skills necessary to professionally diagnose and repair automobiles and light trucks.
   2. To provide students with knowledge and skills necessary to successfully complete state and nationally recognized automotive evaluations.
   3. To provide students with an educational foundation that allows for and encourages future growth.
   4. To provide students with a safe, current and barrier free educational environment.
   5. To provide students with flexible options that increase their opportunities, both educational and extracurricular, that will allow them to successfully compete in the job market.
   6. To increase and foster the Automotive Service Department relationship with industry.
   7. To use industry personnel to help guide the direction of the Automotive Service Department curriculum.
   8. To provide the automotive service industry with qualified entry level repair technicians and related personnel.
   9. To help industry improve the perception of automotive service by encouraging and providing voluntary technician testing and promoting honesty, integrity and professionalism.
   10. To work as a liaison between industry and secondary/vocational schools in an effort to identify and recruit students that will be successful in the automotive industry.
   11. To work within the university community and provide leadership on committees at the college and university levels.
   12. To provide a strong and viable program that will bring recognition to the university and encourage industry support.
   13. To increase the university's visibility through unique and innovative recruiting methods and curriculum offerings.
   14. To promote professional development among faculty and staff and provide an environment that encourages innovative teaching methods.
   15. To work with university administration to prepare a plan for future growth and expansion.

2. **Explain how and by whom the goals were established.**

The goals were established by faculty and agreed upon by the departmental PRP (program review panel).

The Automotive Service Technology Faculty recognizes that to have a successful program many aspects have to be realized and addressed. The goals that have been established were developed with three groups in mind. While there is some overlap among groups the department feels that in order to meet the specific needs of any one group there needs to be goals targeting that group.

The first five goals were established to address the needs of students. These goals will help us to stay focused on the most important part of our mission. These are the goals that will guide decision making on issues directly affecting students today and in the future.

The second five goals were established to address the needs of employers. One of the ways success of the program is determined is through support of the program by industry and the employment of graduates. Therefore goals focused on this group will help insure a successful program.

The last five goals were established to address the needs of the University. The faculty understands the need to work within and support the mission of the University. The Automotive Department is one small part of the University, but is dedicated to work with other departments to keep the University strong and successful.

3. **How do the goals apply to preparing students for careers and employer needs in the applicable marketplace?**

The goals directly support both student preparation for an automotive service career and employer demands for qualified automotive technicians. The goals demonstrate the program's commitment to technician certification at state and national levels. In addition, the goals demonstrate the importance of building a strong educational foundation on which to build a future of learning and experience.

4. **Have the goals changed since the last program review? If so, how and why; if not, why not?**

The goals have changed. Many goals are new or expanded upon. Reasons for change include rapid change in vehicle technology. Such industry change has led to changes in how, where and by whom vehicles are serviced. There is increased public recognition of technician certification. Also there is increased industry demand for quality, accountability, safety and environmental compliance. In addition many retirements and new hires in the automotive department have had an impact in department philosophy. The academic program review format has also changed.

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

The program goals share in common many of the ideas, missions, and plans of the department, college, division and University. Such goals include a learner centered approach using innovative teaching. The goals are career-minded and seek to promote professional education and certification. Flexible options include off-campus offerings through AUTO 291 internships. Such offerings provide increased flexibility to learners and increased University visibility.

B.   Program Visibility and Distinctiveness

1. **Describe any unique features or components of the program.**

Several components make our program unique, including a service floor for second year students. The service floor is run as a business, providing service for and contact with the community. The realistic experience is a valuable component of the program for our graduates.

Also unique within the program are three manufacturer sponsored options: General Motors ASEP (Automotive Service Education Program), Ford ASSET (Automotive Student Service Educational Training), and DaimlerChrysler CAP (College Automotive Program). These options are partnerships between the university, automotive manufacturers and automotive dealerships. Students enrolled in these options learn manufacturer specifics on each subject and perform real world work during AUTO 291 internships at an automotive dealership in their hometown. Students build a manufacturer specific training history and certifications. The manufacturers donate and/or lend many new vehicles, tools, books, and training units to the University. Each manufacturer option is independently NATEF (National Automotive Technicians' Educational Foundation) certified and each has its own advisory committee.

There are also two different certificates available within the Automotive Department. One certificate is in engine machining and makes use of the complete machine shop within the facility. Students can take the machining electives during the evening so as not to interfere with other classes. The second certificate is in high performance. These electives focus on unique pieces of equipment including an airflow bench and an engine dynamometer. Students gain knowledge of test equipment operation and hone their understanding and application of automotive theory.

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

    Because of the choices offered in the program and the available option to build upon the Associate's degree using the 2+2 method, the automotive service program remains attractive. Many automotive students aim to pursue a Baccalaureate degree. Because of the advanced general education requirements of our Baccalaureate degrees, including advanced levels of math and physics in the AET (Automotive Engineering Technology) program, our students need high academic ability. In addition, the three manufacturer sponsored options are only offered at a handful of institutions in the region, making Ferris desirable for its unique menu of choices. Ferris is located within three to four hours of many metropolitan areas within the region. Our location in scenic Mecosta County offers numerous recreational opportunities both on and off campus. The University offers many cultural, social and athletic events to enhance the learning experience. Because the Automotive Service program has a half century of graduates in industry, our alumni also assist in spreading the good word about the Ferris Automotive program. Many alumni work as technicians, managers, corporate personnel and perhaps most importantly, teachers. These are powerful allies in advertising to the next cohort of prospective students.

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

    Competitors of the department include "for profit" institutions such as UTI (Universal Technical Institute), Lincoln Tech, Wyoming Tech, and Nashville Auto Diesel. There are several community colleges with competitive automotive programs including Delta College, Henry Ford Community College, Mid-Michigan Community College, Grand Rapids Community College, and Lansing Community College. In addition, the University of Northwestern Ohio is a strong competitor.

a) **<u>How are these programs similar and different from the FSU program?</u>**

Programs are similar in that all offer automotive service training. There are many differences. Tuition at Ferris remains significantly higher than community colleges though competitive with "for profit" institutions. With regard to degree, "for profit" institutions fail to offer general education or an Associate's degree. While community colleges do offer an Associate's degree, they do not offer continuation into a related Baccalaureate program. It should be noted that our departmental Baccalaureate automotive programs do accept a significant number of transfer students from both community colleges and "for profit" institutions. With regard to schedule format, many of the "for profit" institutions run students on a module or quarter schedule while Ferris runs a semester schedule. Being a full University, Ferris offers many opportunities for students that competitors cannot offer, including NCAA athletic events, housing and dining services, counseling services and numerous social and cultural events.

b) **<u>What can be learned from them that would improve the program at Ferris?</u>**

Many competitors have full time recruiters dedicated strictly to their automotive programs. This includes both "for profit" institutions and the University of Northwestern Ohio. The recruiters are highly motivated to secure students regardless of program outcomes or quality. Both "for profit" and community colleges appear to have stronger monetary investments in facilities and equipment. To potential students touring several automotive school facilities, Ferris will appear less equipped and possibly antiquated. A combination of strong investment and less bureaucracy allows other institutions to more quickly adjust to market demands. For example, Lansing Community College has a program for alternative fuel vehicle technicians while we do not. The competition's combination of strong financial investment in equipment coupled with aggressive recruiting represent a real danger to the future viability of the Ferris Automotive Service program.

C. Program Relevance

1. **Provide a 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. Request information from your library liaison.**

   According to the US Bureau of Labor Statistics, automotive service technicians/mechanics, job number 49-3023, have a forecasted nationwide increase in the number of positions of 125,687 between the years 2004 and 2014, representing an increase of 15.6%. Accompanied with these statistics is the statement *"Opportunities should be very good for automotive service technicians and mechanics with diagnostic and problem-solving skills, knowledge of electronics and mathematics, and mechanical aptitude"* (http://www.bls.gov/emp/empiols.htm). (See Appendix A)

   The State of Michigan Department of Labor refers to automotive technicians/ mechanics as job title 49-3023. The forecast for years 2002-2012 is a 10.8% level of growth. This translates into 2780 jobs during this period. Average annual openings statewide are 966, which include 278 new jobs and 688 replacement workers (http://www.michlmi.org/LMI/occ_proj/occ_02.htm). (See Appendix B)

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

   Emerging issues in the discipline include an increased dependence on computers and the internet for automotive diagnosis and repair. Automotive manufacturers have switched from paper-based service information to an electronic format. Manufacturer warranty systems have also changed the discipline. Warranty programs have driven improvements in vehicle quality. Manufacturers' ability to track and audit warranty costs has driven down fraud and questionable repairs. Many retail dealerships have shifted to emphasizing routine maintenance over warranty repair work. Fierce competition coupled with lemon law legislation has forced repair businesses to emphasize accuracy. Employers need a labor force that is both accurate in diagnostics and well versed at documentation.

   The department has responded by becoming the first on campus to install a wireless computer network. The department also has 24 laptop computers available for student checkout. Information is available on DVD or via internet services such as ALLDATA, and/or manufacturers' sites. Most program faculty have enhanced their classroom presentations with multimedia

including Web CT. Students gain much exposure to electronic repair media and applicable internet sites during classroom, laboratory and outside assignments. There are also changes with regard to student needs. Many students continue to have the desire to study automotive service technology but wish to pursue a Baccalaureate degree. The automotive department has created 0+4 options for both the AHM and AET baccalaureate degrees while continuing to offer a stand-alone 2 year Associate degree and the option of using it in the 2+2 Baccalaureate degrees. The automotive department's response affords more educational choice to current and prospective students. These new choices will also allow for labor force flexibility and give students the ability to alter their course within the educational stream.

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

a) **How well does the program meet student expectations?**

Overall the program gets good marks from current students and recent graduates. The Ferris Automotive Service program has a solid reputation in the automotive repair industry. Many prospective students are likely to hear positive recommendations about the Ferris automotive center from vocational teachers and those employed in automotive repair shops throughout the region.

b) **How is student sentiment measured?**

Student sentiment was measured using surveys of both current students and recent graduates. The current student survey targeted three major areas: professors, quality of instruction and facilities/equipment. The survey instrument had 32 items with a rating scale of A, B, C, D, E or F for non-applicable. In addition to the response items, students could also provide comments. Approximately 200 surveys were returned. Most questions yielded positive results with 30-40% each split between a rating of A or B and a 10-15% rating of C. There were a few outliers of D and E ratings. The current student survey comment section yielded mostly unsatisfied/negative comments. Some comments were directed at individual professors but more of the consistent complaints focused on equipment, space, and classroom projectors. Eleven comments were directed at the lack of or outdated equipment and tools. Three comments were directed at a lack of space in laboratories and 3 comments directed at the lack or quality of projectors in the classrooms.

The recent graduate survey (See Appendix C) contained 30 items. Some questions asked for specifics regarding position, wage, certification level, and experience while other questions asked about Ferris' preparation with a scale of A to F. The last item asked for general comments on the program. There

were a total of 84 returned surveys. Most of the graduates are working in the automotive repair field and the majority received one or more Michigan or ASE certifications. One important question asked if the program adequately prepared the student for their first job. Sixty-nine responded yes to the question while 13 responded no. Questions regarding the automotive faculty, lectures, laboratories, advising, facility and equipment were consistently positive. In these areas 35-40% each were split between a rating of A and B. About 10% responded with a rating of C and a small remaining percentage responded with a D or F rating. Comments were all over the board concerning individual faculty members and contained both the positive and negative. Eight comments were directed specifically at a lack of or outdated service equipment. Three comments were directed at a lack of space. Three comments suggested more use of computer related diagnostic systems and three comments suggested that certification become a requirement of the program.

D.   Program Value Please refer to the faculty survey

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

Though divisions exist at some levels regarding issues that will determine the future direction of the program, the faculty remain in agreement about the current strength and viability of the Automotive Service program. Faculty members in the Automotive Service program respect each other's technical and teaching abilities and practices. The faculty body is an excellent source of technical knowledge through a diversity of background and experience. The faculty exhibit pride in our numerous graduates and possess numerous contacts in the repair field that benefit the university. Such contacts and alumni are potential donors of money and material to the university and also potential employers to our graduates. On campus, the automotive program provides an outlet of low cost automotive service repair to the community through the service floor. The automotive center itself is large (77,000 square feet) and boasts some unique equipment; however, the faculty survey indicates that physical facilities need attention. Program personnel are active within the College of Technology and serve on numerous COT committees and actively engage in events such as Dawg Days and the COT student picnic. Program personnel are also active in the university community and serve on numerous committees including the APR (Academic Program Review) committee, judicial services committee, arts and lectures committee, diversity committee and substance abuse committee. Several articles in the university FYI publication have featured accomplishments of the automotive department.

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

The faculty agrees that the automotive service program offers a large, well staffed facility with many laboratory vehicles and flexible options for the students enrolled in the program. The department faculty body is large and has a diverse technical background for students to draw from. Students are known by name. Faculty members encourage student contact and have open offices that allow for ease of contact with students beyond required office hours. Faculty members advise and inform all students of their options and choices within the program, department and the university. Faculty member contacts within industry including faculty at other schools, repair facility management and technicians, and vehicle manufacturer training departments offer a powerful network that contributes to our high placement rate. Students also are informed of numerous cultural, social and athletic events offered on campus. An SAE (Society of Automotive Engineers) student chapter is present on campus.

The faculty survey indicates that attention must be given to outdated, broken or lacking equipment but also recognizes what is available. A computer laboratory with 17 desktop computers and 24 laptop computers with wireless internet offers connection with the world for our students. A benefit of the unique manufacturer sponsored automotive programs is the approximately 80 laboratory vehicles for use in vehicle intensive training. Vehicle lifts, special service tools and equipment such as scan tools for performing electronic diagnostics are also available to service these vehicles. The facility also has a full machine shop, dynamometer and airflow bench representing excellent opportunities for students interested in racing and high performance to enroll in optional electives.

3.   **What is the assessment of the program personnel of the value of the program to employers?**

The faculty remain in agreement that the program has a good reputation for turning out qualified technicians to employers. We encourage students to obtain industry recognized ASE certification. Our balance of lecture and hands-on is well known and our students are sought after for their ability to complete hands-on tasks.

Explain how this value is determined

This value is determined by several indicators. The automotive service program has four advisory committees. Per our NATEF certification, these committees are to meet twice a year. Each manufacturer-sponsored option has its own advisory committee and in addition, the comprehensive program has a committee. The committees are made up of service managers, service directors, owners, manufacturer-training department personnel and management. The committees serve our program and students by providing input on program curriculum and feedback on work performance of Ferris graduates. Several of the advisory committee members are Ferris alumni that take special interest in promoting our automotive service program.

Another indicator of employer satisfaction is our AUTO 291 internships. This option for our students substitutes real world work experience at a dealership or recognized repair facility in place of our in-school service floor laboratory. Program faculty members closely monitor the progress of students and make regular visits to the repair facilities. Management and mentor input are used in evaluating student progress. An employer survey is collected from employers of Ferris graduates. The survey data reveals an overwhelming majority of employers are satisfied with the preparation of our graduates as entry level technicians. Another indicator of automotive program value is the rates of graduation and placement which remain at or above university averages.

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

The Automotive Service program and faculty members serve external entities in many ways. The Automotive Center was the site of the 2000 NACAT (North American Council of Automotive Teachers) conference. This conference brought instructors and industry representatives from all over the United States and Canada to our campus. The building also has been the site of training for dealership technicians and service managers through DaimlerChrysler Academy. A Jaguar/Land Rover regional meeting was held in the building during the summer of 2005.

The Automotive faculty is active and there are many individual examples of related industry involvement external to the university. Professor Peter Alley serves on the advisory committee for Newaygo County Career Tech Center. Professor Rexford Billings serves on the Mid-Michigan Community College advisory committee. Assistant Professor Gary Gage and Associate Professor Benjamin Upham serve on the Mecosta-Osceola Intermediate School District advisory committee. Ben has also served as a judge in the state AAA troubleshooting competition and at SKILLS USA events. Associate Professor Dan Skurski has worked with ABET accreditation for other institutions.

Assistant Professor Russ Leonard reviewed a 4th edition of <u>Manual Transmissions & Transaxles</u>, a manual transmission and drivetrain book. Assistant Professor Mark DeKoster has contributed to ASE by helping to create a question bank for future certification tests and has presented at Auto Value seminars. Mark also hosted and presented at a high school teacher technical update at the Automotive Center in May 2006. Assistant Professor Matthew Dixon hosted Automatic Transmission Rebuilders Association testing for local transmission shops at the Automotive Center in May of 2005.

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.**

The faculty and staff have been involved in many service-type activities since the last program review. The entire faculty and staff were involved in hosting the NACAT conference at Ferris. In addition to providing support for the conference, some of the faculty also presented seminars. One faculty member works with the Cad Drafting/Tool Design department during their Engineering Technology Exploration Academy for high school students. The Automotive Department has hosted groups such as the Girl Scouts for a "Car Care" seminar to help them achieve their badge. For several summers a number of faculty taught seminars for the Wyoming School Automotive Engineering and Design Summer Academy. Many of the faculty serve on advisory committees for various schools in the area. The department has also hosted several recruiting days at the Automotive Center to show case the facility and program.

All of the activities that the faculty and staff have participated in have either introduced the facility and program to prospective students or provided a community service. The faculty believes that involvement in these types of activities is necessary to promote the opportunities Ferris has to offer to young people, and to be a good steward in the community.

Section 2

Collection
Of
Perceptions

A. Graduate Follow-up Survey

SUMMARY:

The "Survey of Graduates" (see Appendix C) was mailed to 342 Automotive Service Technology graduates. Eighty four graduates responded which represents a sampling of 24.5%. The purpose of the survey was to learn how well the AAS degree in Automotive Service Technology had prepared the graduates for a successful career as an automotive technician.

The majority of the respondents were AAS graduates; however, approximately 25% of the respondents completed a BS degree. The majority of the AAS degree completers are still gainfully employed in the automotive service industry. The annual income is approximately $40,000 to $50,000. Most are employed in automotive dealerships. Approximately 85% or 38 of 45 AAS graduates completed the GM ASEP, Ford ASSET, DaimlerChrysler CAP options and are employed in their respective corporations.

Our graduates are finding gainful employment in the automotive industry. Their positions vary some, but the trend seems to be manufacturers, dealerships, and independent service facilities. Five graduates had starting salaries of $35,000 or more with majority starting between $20,000 and $25,000. Most graduates found employment without the help of the Ferris State University placement office.

Two thirds of our graduates have earned ASE certification with about the same number becoming state licensed.

As far as faculty, curriculum, and facilities are concerned the Automotive Service Technology department earned a B to B+ grade. While this is acceptable the department should be able to do better. One of the areas the department received the lowest grades was in facilities and equipment. The faculty and staff can do very little to improve in this area because they have very little to do with resources that control the purchase of equipment and facilities. The areas of teaching and advising earned B+ to A- grades.

B. Employer Follow-up Survey

SUMMARY:

The "Employer Survey of Graduates" (see Appendix D) was mailed to 74 employers who employ graduates of the Automotive Service Technology Department at Ferris State University. Twenty seven surveys were completed and returned which represents a 36.4% response. The survey contained seven questions seeking information about Ferris Automotive graduates certification and job success.

According to the results of the survey most of the graduate employees are assigned to several skill areas. The students are also certified and can perform service in multiple areas making them more valuable to their employer.

In the area of attitudes and abilities Ferris graduates received very high ratings. This was in addition to the fact that most employers responding would hire a Ferris graduate again if the opportunity arose.

C. Graduating Student Exit Survey

SUMMARY:

The "Student Exit Survey" (see Appendix E) was completed by sixty seven sophomores graduating from the AAS in Automotive Service Technology program in May of 2006. Three areas were surveyed, perceptions of faculty by the students, curriculum, and facilities and equipment.

Overall the faculty is perceived very well by the students; however, three areas should be addressed to some degree.

- The first area to be mentioned was academic advising. This may be due to the lack of training for academic advisors in the College of Technology.

- The second area to be mentioned was faculty availability. Faculty is required to post a minimum of four hours of office time each week. There is very little guidance on selecting this time and what may be acceptable to some students may not be to others. Most faculty are willing to make extra time to meet with students if posted office hours are inconvenient. This may need to be conveyed to students in a better way.

- The third area was faculty impartiality. Some students responded that they felt some instructors were not fair when giving out grades.

D. Student Program Evaluation

SUMMARY:

The survey instrument (see Appendix F) was administered to all freshman during one of their classes. This provided for a 100% return on the survey. After compiling a summary of all students who completed the survey, the survey results revealed that a very high percent of the students responded by saying the instructors' abilities and competence levels were above average or excellent. Additionally the overall consensus from the students surveyed was that they felt that the presentations of the instructors fell into the high percentile of above average to excellent. In regards to the professors' stimulation of interest for the students surveyed, results showed an above average or excellent rating. There were a very small number of students that stated that some professors provided below average stimulation of their subject matter. Overall, however, the percentage of students that felt that the material was presented in a fashion that they were able to understand and comprehend was very high.

The quality of the materials lectured on was rated high and also perceived to be up to date and current. The level of difficulty and completeness of material were also rated very high. There was, however, a very small percent that felt that more details could be given. The media used to present these materials was rated above average or excellent. Some comments suggested more hands-on experience and videos. Specifically the comments were suggesting that the PowerPoints used during lectures somewhat mirrored the same information that was in the actual books and therefore felt that if examples were provided, it would be more beneficial to the students. The quality of the internship experience for the students who were actually involved with the internships was also rated very high. The service floor experience for those students who had involvement rated it high as well.

In regards to the results found on the survey relating to facilities and equipment, the students rated the equipment maintenance and availability on the lower end of the scale. Collectively through the survey the majority of these students responded with various suggestions and/or recommendations of replacing old outdated equipment. Some of these suggestions/ recommendations were specific to the following items: alignment equipment, more tools, engine parts storage areas and more overhead projectors within the classrooms. The condition of the facilities and classrooms was rated relatively high. Positively the survey produced a general consensus that the rooms were clean.

In conclusion, according to the student surveys the area that seemed to stand out the most was equipment needs for lab areas with relatively small percentages of concern with instructional practices.   For more details attached is the Survey of Current Students, Automotive Service Program – FSU- report.

E.   Faculty Perceptions

<u>SUMMARY:</u>

The "Faculty Survey" (see Appendix G) was administered to all 14 tenure track faculty and 10 responded for a return rate of 71%. The curriculum, based on the faculty summary appears to be positive and supports the belief that the program is heading in the right direction.   Student follow-up had minimal low scoring; the majority seemed to be satisfied with the faculty efforts. The faculty perception of course outline, syllabi and course objectives is clearly defined for each class and is well laid out. Other positive aspects of the program include the diversity of the faculty's technical knowledge in their related fields, which is considered a great asset to the program. The high performance program sparks high interest from students, which could be utilized to broaden their education in the automotive field.

The survey pointed out low scoring in the processes category. For example, handicap accessibility was low and needs to be improved. In addition to program availability, which needs to be improved to enhance awareness of the programs offered at the University, Web-site and advertisement for the Automotive Technology programs are some of the recommendations to assist in this objective.   Encouragement of female enrollment needs to be addressed simply because the ratio of male to female students is quite low.

Current operating budget and capital equipment budget numbers were very visible in regards to the needs of enhancement, in order to encourage continued growth. Additional funding for equipment supplies and building space is strongly recommended from all faculty members. Many of the equipment needs are due to outdated equipment, which often costs more to repair than to replace. Lab scheduling needs to be improved upon as well, so there is adequate time to set up for the incoming lab prior to the students' arrival. This is very important to ensure that the lab experience encourages greater learning on behalf of the students. The time that is needed for setting up an organized lab is also lengthened due to the instructor needs to spend additional hours just getting vehicles into the labs due to poor maintenance (dead batteries, no fuel in vehicles, etc.).   Recruitment needs are strong from all faculty members with the majority of the staff announcing that budgeting and scheduling need to take place as a high priority.

In conclusion, the faculty perceives the Automotive Service Program to be strong due to the technical knowledge and diversity shared among the faculty members and other

corporate sponsors and the ever growing need for qualified automotive service technicians. They also showed concern with the deteriorating equipment and tools and lack of budgeting to uphold improvement of these items. which may jeopardize the program's integrity leading to student enrollment decline. For more detail please refer to the survey report.

F.   Advisory Committee Perceptions

<u>**SUMMARY:**</u>

The "Advisory Committee Survey" (see Appendix H) was administered to the individual advisory committees as they met during fall and winter semesters. This resulted in a 100% return rate on the surveys. The results from the survey completed by the advisory committee reflected that the performance objectives of the Automotive Service Technology Program met or exceeded the entry level technician job skill and knowledge needs for employment in the industry. The overall Automotive faculty was perceived to be excellent, well-trained and up-to-date with current technology and teachers and staff who really care about the program and the students.

Some of the major strengths that were noted included well-trained technicians/students and co-op and corporate internships which provide hands-on experience with real life situations. This included factory specific training to enhance the student's education in current automotive technology above and beyond the basic skills needed for an entry level technician in general automotive repair. Another strength noted was labs that allow students to gain a basic understanding of the systems used in modern automotive applications and time to develop some basic hands-on skills. An additional point that seems to be common was the growing need for quality entry level automotive service technicians in both local and distant areas.

The major downfalls seem to be that the building is too small to support major growth in the program and lab space needs to be enlarged to incorporate more up-to-date equipment and a better learning environment. Also common responses stressed the need for more up-to-date equipment and tools: some specific tools mentioned were a road force balancer and a newer four wheel alignment machine.   In addition, there was a requested improvement need of better recruitment efforts of students interested in the automotive field as well as better communication with high-schools, vo-techs and career centers.

In conclusion, the overall view of the advisory committee towards the automotive program was positive and the future growth potential for this program as well as job placement look excellent in an ever growing technical field of automotive service. The major concerns lean towards building constraints and equipment needs for future growth of this program.

Section 3

Program Profile

A. Profile of Students

1. **Student Demographic Profile**
   a. <u>**Gender, race/ethnicity, age (use annual institutional data).**</u>

- **The ratio of male to female students since the last program review is illustrated in the following table:**

Term	Total Students Enrolled	Male Student Count	Male Student %	Female Student Count	Female Student %
Fall 2001	158	151	95.5%	7	4.4%
Fall 2002	160	153	95.6%	7	4.4%
Fall 2003	219	217	99.0%	2	0.9%
Fall 2004	220	217	98.6%	3	1.3%
Fall 2005	198	196	98.9%	2	1.0%

Looking at student gender ratios since the last program review, the students in the Automotive Service Technology program have averaged 97.5% male, and 2.5% female. *(Data provided by Institutional Research and Testing 11/8/2005)*

- **The chart below illustrates the student body profile as it relates to ethnicity / race since the last program review:**

Term	Total Student Count	African American	Hispanic	Indian / Alaskan	Asian / Pacific Islander	White	Foreign	No Response
Fall 2001	158	8 (5.0%)	1 (0.6%)	3 (1.9%)	3 (1.9%)	134 (84.8%)	3 (1.9%)	6 (3.8%)
Fall 2002	160	3 (1.8%)	1 (0.6%)	1 (0.6%)	1 (0.6%)	141 (88.1%)	5 (3.1%)	8 (5.0%)
Fall 2003	219	5 (2.3%)	1 (0.5%)	1 (0.5%)	4 (1.8%)	193 (88.1%)	5 (2.3%)	10 (4.6%)
Fall 2004	220	1 (0.5%)	3 (1.4%)	2 (0.9%)	2 (0.9%)	205 (93.2%)	0 (0.0%)	7 (3.2%)
Fall 2005	198	6 (3.0%)	2 (1.0%)	0 (0.0%)	5 (2.5%)	180 (90.1%)	2 (1.0%)	3 (1.5%)

- **The average age of the Automotive Service Technology student is illustrated in the following table:**

Term	Average Age
Fall 2001	**19.5 yrs.**
Fall 2002	**19.5 yrs.**
Fall 2003	**19.8 yrs.**
Fall 2004	**19.7 yrs.**
Fall 2005	**19.6 yrs.**

Looking at student age data since the last program review, the students in the Automotive Service Technology program have averaged 19.6 years of age. *(Data provided by Institutional Research and Testing 11/8/2005)*

   b. **In-state and out-of-state.**

- **The following table illustrates residency status of students enrolled in the Automotive Service Technology program:**

Term	Resident	Non-Resident	Midwest Compact
Fall 2001	145 (91.7%)	8 (5.1%)	5 (3.2%)
Fall 2002	144 (91.7%)	3 (1.9%)	10 (6.4%)
Fall 2003	192 (88.5%)	3 (1.4%)	22 (10.1%)
Fall 2004	192 (87.3%)	2 (0.9%)	26 (11.8%)
Fall 2005	164 (83.2%)	7 (3.6%)	26 (13.2%)

On average, looking at student residency data since the last program review, 88.4% of the students have been residents, 2.6% have been non-residents, and 8.9% have been Midwest Compact. *(Data provided by Institutional Research and Testing 11/8/2005)*

c. **Full time and part time status.**

- **Data relating to student part-time/full-time status is illustrated in the table below:**

Term	Total Enrolled	Full Time Students	Part Time Students
Fall 2001	**158**	**153**	**5**
Fall 2002	**160**	**159**	**1**
Fall 2003	**219**	**218**	**1**
Fall 2004	**220**	**218**	**2**
Fall 2005	**198**	**195**	**3**

Looking at student age data since the last program review, the Automotive Technology Program had an average total student count of 191 students. Of those, the average number of full-time students was 189 and the average number of part time students was 2. *(Data provided by Institutional Research and Testing 11/8/2005)*

d. **Attended the class during the day, in the evenings, and on weekends.**

The Automotive Service Technology program has no weekend course offerings. With few exceptions, all courses are scheduled during daytime hours: there have been only a few evening class offerings since the last program review.

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

The Automotive Service Technology program does not currently offer any off-campus classes; therefore, all students would attend classes on campus.

f. **Enrolled in 100% on line and/or mixed delivery courses.**

The Automotive Service Technology program does not currently offer any 100% on-line or mixed delivery classes.

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

As noted in (a) through (f), the vast majority of Automotive Service Technology students are full time, on campus; this fact lends itself to having class offerings that fit their schedules. Considering the program's audience, the material being covered, and the extent at which lab environments are utilized, on-line and mixed delivery methods of instruction have a very limited role at this time.

2. Quality of students
   a. **What is the range and average GPA of all students currently enrolled in the program? ACT? Comment on this data.**

- **The following table illustrates the range and averages of GPA's and ACT's of students enrolled in the Automotive Service Technology program since the last program review.** *(Data provided by Institutional Research and Testing 11/8/2005)*

Term	Average GPA	Minimum GPA	Maximum GPA	Average ACT	Minimum ACT	Maximum ACT
Fall 2001	2.77	1.691	3.878	18.6	12	30
Fall 2002	2.776	1.6	3.968	19.6	12	30
Fall 2003	2.862	1.313	4	20	13	29
Fall 2004	2.779	1.6	4	20.6	13	33
Fall 2005	2.834	1.368	3.952	20.7	13	33
Average of Last 5 Years	2.803	1.514	3.96	19.9	12.6	31

b. **What are the range and average GPA's of students graduating from the program? ACT? Comment on this data.**

- **The following table illustrates the range and averages of GPA's and ACT's of students that have graduated from the Automotive Service Technology program since the last program review.** *(Data provided by Institutional Research and Testing 11/8/2005)*

Year	Average GPA	Minimum GPA	Maximum GPA	Average ACT	Minimum ACT	Maximum ACT
2000-2001	3.045	2.238	3.845	18	9	25
2001-2002	2.97	2.116	3.91	18	10	30
2002-2003	2.963	2.033	3.936	17.5	7	27
2003-2004	3.04	.904	3.988	18.7	9	29
2004-2005	2.963	2.315	3.879	18.2	14	25
Average of Last 5 Years	3.0	1.92	3.91	18.1	9.8	27.2

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

The students entering the College of Technology (COT) must have an ACT composite of 17 and a 2.5 grade point average. In addition the automotive service program requires a math ACT of 19. Failure to meet an ACT of 19 in math will place the student in the pre-technical program which is required until Math 116 placement is achieved. Once this is achieved the student is no longer considered pre-technical and can enter the specific degree program.

d. **Identify academic awards (e.g. scholarships or fellowships) students in the program have earned. Comment on the significance of these awards to the program and students.**

Automotive Service students have received the following scholarships; Mary Simonson-Rehwald Scholarship sponsored by the Women's Automotive Association International, Gary Trimarco Automotive Scholarship, and the General Motors Service Operations Scholarship. These scholarships have helped ease the financial burden placed upon students.

e. **What scholarly/creative activities (e.g., symposium presentations, other presentations or awards) have students in the program participated in? Comment on the significance of these accomplishments to the program and students.**

Students have participated in the Society of Automotive Engineers (SAE) mini Baja, and Formula 1 competitions. These organizations have allowed students to become officers and to develop work ethics found in the automotive industry.

f. **What are other accomplishments of students in the program? Comment on the significance of these accomplishments to the program and students.**

Other accomplishments include the GM Goodwrench Leadership Award, Automotive Service Excellence Award, and Northern Michigan Parts & Service Club Award.
These awards bring recognition to the program from outside the University. This helps when requesting donations from corporations. It helps students build their resume and sets them apart from other people applying for the same job.

3. Employability of students.

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

According to the "Graduate Follow-Up Survey Report" (see Appendix I) for years 2000-2001 through 2003-2004, the placement rate for the Automotive Service program averages approximately 98.75%. This represents approximately 204 graduates over this four-year time period that have become employed full-time in the field. All data was calculated based on a 66% average return rate on the surveys.

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

Based on the information contained in the "Graduate Follow-Up Survey Report," (see Appendix I) the average starting salary for graduates of the Automotive Service Program is approximately $35,000.00 annually. This compares to Bureau of Labor Statistics' national mean estimate of $34,760 and Michigan Department of Labor and Economic Growth estimate of $37,970 annually. One thing to keep in mind is that the national and state estimates are for all technicians in the industry and not necessarily starting salaries. The alumni surveys that have been returned to this department for the purpose of Program Review indicate that graduates of the Automotive Service program exceed both the state and national averages within a few years of graduation.

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.**

Data on the employment rates of graduates in part-time or temporary positions is unavailable at this time. Students that graduate with an Associate's degree in Automotive Service Technology typically are employed as full-time employees or continue their education.

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

Students have access to the Office of Student Employment and Career Services on campus, where they can seek help in creating and posting a resume, search for prospective employers, view job fair schedules, participate in mock interviews, etc. The Automotive faculty is also an excellent source of information on job opportunities and career related information. According to the "Survey of Graduates" (see Appendix C) sent out by the Automotive Department, of the 82 students that responded to this question only 5 were assisted by the Career Services department. This represents approximately 6% of the respondents. Of the 77 that were not assisted by Career Services 24 reported being assisted with obtaining their first job by faculty in the Automotive Department; this is approximately 30% of the respondents. Students that obtain their degree within one of the corporate options are required to have a dealership sponsor them through the program. This means the student does co-op work experiences throughout the two-year program and this usually leads to full-time employment upon

graduation. Therefore the need for these students to obtain assistance in locating a job is minimal.

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

Based on information received in the "Survey of Graduates" (see Appendix C) sent out by the Automotive Department, 57 of the 84 respondents left the University after obtaining their A.A.S. degree in Automotive Service. Of these 57 students, 2 are not employed and 2 are currently continuing their education. This would indicate that approximately 92% of the graduates from the Automotive Service program are still employed in the field.

f. **Describe and comment on the geographical distribution of employed graduates.**

According to information supplied by the office of Alumni Relations, the majority of graduates reside all over the state of Michigan. A smaller percentage is from out of state. Students that are seeking an Associate's degree only tend to return to their hometown or close to it for employment. Students that complete their degree in one of the three corporate options usually return to work at their sponsoring dealer which is close to their hometown.

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

According to information obtained from the "Survey of Graduates" (see Appendix C) conducted by the Automotive Department, 53 of 71 respondents indicated that they had additional schooling within 24 months of starting their first job. This represents approximately 75% of the graduates in the Automotive Service program. This is not surprising given the highly technical and always changing characteristics of the automotive repair field.

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

The additional schooling typically is done at places like corporate (Ford, GM, DaimlerChrysler) sponsored training centers, aftermarket training seminars, conferences/expos, through trade organizations, etc. This will depend on the graduates' employer and affiliations they may have.

B. Enrollment

1. __What is the anticipated fall enrollment for the program?__

   Based on current figures and past experience, the projected enrollment for Fall 2006 is approximately 100 students. This is the estimated number of students that will be enrolled in the Automotive Service program in the fall.   Since the conversion of two of the Baccalaureate degrees to 0 + 4, students will now be labeled from day one as Automotive Engineering Technology or Automotive Management students. This will most likely decrease the numbers designated as Automotive Service Technology students. *(Estimation supplied by department chair.)*

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

   The following table reflects student enrollment and student credit hours since the last program review: *(Enrollment data provided by Ferris Fact Book pg. 52 / SCH data provided by Institutional Research and Testing 11/9/2005)*

	__Fall 2001__	__Fall 2002__	__Fall 2003__	__Fall 2004__	__Fall 2005__
__Total Student Enrollment__	158	160	219	220	198
__Total Student Credit Hours__	2423	2534	3454	3524	3183

   Between Fall 2001 and Fall 2004, a 38% increase in student enrollment has been realized. Fall 2005 showed a moderation in student enrollment, deviating from the previous 4 years of increase. Between Fall 2004 and Fall 2005, a 10% reduction in student enrollment was experienced.

   The decline in enrollment for fall 2005 reflects a similar drop experienced by the University and the following colleges:
   - College of Business
   - College of Education and Human Services
   - College of Technology
   - University College

One year's variation does not indicate a trend, the drop in enrollment for Fall 2005 has been noted, and a *"possible"* explanation is listed below:
The corporate sponsored programs have experienced a significant drop in enrollment for 2005. The U.S. economy has a great impact on the ability of the program to attract internship opportunities. When the industry is slowed, this will unquestionably affect dealerships' level of commitment, attributing to a drop in student enrollment.

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

The following table reflects the number of students who have applied to the program since the last program review: *(Data supplied by Institutional Research and Testing / Weekly Enrollment Report)*

	Fall 2001	**Fall 2002**	**Fall 2003**	**Fall 2004**	**Fall 2005**
Number of Students That Applied to the Program	NA*	NA*	275	220	174

* Data was not made available from Institutional Research and Testing

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

Of the students that applied, the following table reflects the number and percentage of students that were admitted: *(Data supplied by Institutional Research and Testing / Weekly Enrollment Report)*

	Fall 2001	**Fall 2002**	**Fall 2003**	**Fall 2004**	**Fall 2005**
Number of Students That Applied to the Program	NA*	NA*	275	220	174
Of Those That Applied, Number and Percentage of Students Admitted to the Program	NA*	NA*	212 (77.1%)	162 (73.6%)	117 (67.2%)

* Data was not made available from Institutional Research and Testing

5. **Of those who are admitted, how many and what percentage enroll?**

Of the students that were admitted, the following table reflects the number and percentage of students that enrolled: *(Data supplied by Institutional Research and Testing / Weekly Enrollment Report)*

	Fall 2001	Fall 2002	Fall 2003	Fall 2004	Fall 2005
Number of Students Admitted to the Program	NA*	NA*	212	162	117
Of Those That Were Admitted, Number and Percentage of Students Enrolled in the Program	NA*	NA*	124 (58.4%)	88 (54.3%)	61 (52.1%)

* Data was not made available from Institutional Research and Testing

6. **What are the program's current goals, strategies, and efforts to maintain/increase/decrease the number of students in the program? Please explain.**

The goal of the Automotive Service Technology Program is to increase the number of students enrolled in the program. As goal #13 states, the objective is to increase the university's visibility through unique and innovative recruiting methods and curriculum offerings. The following is a listing of some of the efforts the Automotive Center's staff have participated in to increase student awareness of the Automotive Service Program's offerings.

- The Automotive Center hosts an annual Automotive Faculty Update Seminar, where high school automotive instructors are invited to take part in update training on emerging technology. Included in this initiative is familiarization of high school automotive instructors with program offerings, therefore opening avenues to potential students.

- Automotive Center Faculty regularly participate in career fairs at area vocational centers and high schools across Michigan and surrounding states. The purpose is to expose students to opportunities that Ferris State University has to offer.

- The Automotive Service Technology Program is displayed on Ferris State University's website to provide interested students with up-to-date information on program offerings, staff, and careers.

- The Automotive Center has hosted Technician of the Future Day, where high school automotive instructors and their students are invited to Ferris State University to see the Automotive Center and become familiar with

program offerings. In past years, the participation of vocational centers and high schools has been significant, suggesting promise for future enrollment trends.

- The Automotive Center has hosted Regional Corporate Meetings for Jaguar, Land Rover, and Daimler/Chrysler. These meetings allow corporate managers to be introduced to Ferris State University and the Automotive Center. The rationale is for our corporate sponsors to learn more about the Automotive Service Technology Program, therefore promoting participation in our corporate sponsored programs.

- The Automotive Service Technology Program is displayed on websites sponsored by Ford Motor Company, Daimler-Chrysler, and General Motors, to provide interested students with possible career pathways they may pursue through Ferris State University.

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? Which of these items limits program enrollment capacity? Please explain any difference between capacity and current enrollment.**

    Since the last program review process, the Automotive Service Technology Program has grown significantly. Enrollment for the 2004/2005 academic year reached a high-water mark with a 39% increase over 2001/2002 enrollment. In 2005/2006 a slight moderation was seen, but still there was a 25% enrollment increase when compared to 2001/2002 enrollment data.

    This enrollment increase has placed higher demands on some components of the program. While the enrollment in the program has grown, for the most part, the facilities have not increased proportionally in size or equipment allocations. In addition, there has not been any increase in the budget for equipment and supplies since the last program review; the program's funding for these items has remained at $33,631.00 for the last 5 years.

    To give an example, accepted guidelines for automotive service technology programs across the United States typically show space requirements for labs to range from a minimum 180 square feet per student (Michigan Department of Education), to 225 square feet per student (NATEF), to 275 square feet per student (Massachusetts

Department of Education). According to these nationally accepted guidelines, the maximum student capacity of the service floor facility (room 118) ranges from 32 students to 50 students. Fall 2005 enrollment on the service floor facility (room 118) was at 53 and winter 2006 exceeded 60. (see Appendix J)

At this point, the limiting factor for enrollment is physical space requirements. To reduce the impact of this obstruction, students are given the option of substituting field internships in place of their service floor experience. Additionally, the service floor is offered in the summer, allowing students more access to the facility.

D. Retention and Graduation

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

      (All data used in this section was obtained from Institutional Research and Testing)

      The annual attrition rate in the automotive service program averages approximately 23 percent after the first year as compared to a University wide statistic of 34 percent for two-year degree programs. This represents an average of 15 students a year over the last four years. This increases to approximately 53 percent after the second year and 50 percent after the third year. This substantial increase in non-persisters after the second year is probably due to students that change programs, but don't apply for graduation from the Automotive Service degree program. The way students are tracked in the system allows them to complete the requirements for an A.A.S. degree and not receive that degree simply because they did not apply for graduation. Then when they complete a program change they drop off the Automotive Service data as not enrolled and not having graduated (non-persisters in prg). As can be seen in 2001 the number of non-persisters in the program diminishes after the third and fourth year. This is probably due to students that change programs from Automotive Service to either Automotive and Heavy Equipment Management or Automotive Engineering Technology and then complete the requirements for their A.A.S. degree.

Entering Fall Term	Major	N		Year 2	Year 3	Year 4	Year 5
2001 F	AUSV	63					
			% Graduated By	0 (0)	28 (18)	53 (33)	65 (41)
			% Still Enrolled In	79 (50)	35 (22)	13 (8)	4 (3)
			% Persisters	79 (50)	63 (40)	66 (41)	69 (44)
			% Non-Persisters	21 (13)	37 (23)	34 (21)	31 (20)
			% Graduated in Prg	0 (0)	28 (18)	52 (33)	61 (38)
			% Still Enrolled in Prg	79 (50)	22 (14)	1 (1)	0 (0)
			% Persisters in Prg	79 (50)	50 (32)	53 (33)	61 (38)
			% Non-Persisters in Prg	21 (13)	50 (31)	47 (30)	39 (25)
2002 F	AUSV	70					
			% Graduated By	0 (0)	27 (19)	47 (33)	
			% Still Enrolled In	79 (55)	32 (22)	15 (11)	
			% Persisters	79 (55)	59 (41)	62 (43)	
			% Non-Persisters	21 (15)	41 (29)	38 (27)	
			% Graduated in Prg	0 (0)	27 (19)	47 (33)	
			% Still Enrolled in Prg	77 (54)	14 (9)	1 (1)	
			% Persisters in Prg	77 (54)	41 (29)	48 (34)	
			% Non-Persisters in Prg	23 (16)	59 (41)	52 (36)	
2003 F	AUSV	93					
			% Graduated By	0 (0)	26 (24)		
			% Still Enrolled In	80 (74)	41 (38)		
			% Persisters	80 (74)	67 (62)		
			% Non-Persisters	20 (19)	33 (31)		
			% Graduated in Prg	0 (0)	26 (24)		
			% Still Enrolled in Prg	77 (72)	25 (23)		
			% Persisters in Prg	77 (72)	51 (47)		
			% Non-Persisters in Prg	23 (21)	49 (46)		
2004 F	AUSV	79					
			% Graduated By	0 (0)			
			% Still Enrolled In	83 (66)			
			% Persisters	83 (66)			
			% Non-Persisters	17 (13)			
			% Graduated in Prg	0 (0)			
			% Still Enrolled in Prg	77 (61)			
			% Persisters in Prg	77 (61)			
			% Non-Persisters in Prg	23 (18)			

2.   **What are the programs current goals, strategy and efforts to retain students in the program?**

The Automotive Service Department does not currently have a formal retention plan in place. However there are a number of things that students are eligible to participate in while earning their A.A.S. degree that help to keep them involved with the program. The Automotive program offers certificates in both "High Performance Machining" and "Performance Motor Sports.". The classes within these two certificates are very popular with the students. There is also an opportunity to join the student chapter of the Society of Automotive Engineers (SAE). The SAE groups have built a mini Baja and a Formula 1 car and compete against other schools with similar vehicles. Some options within the Automotive Degree offer regularly scheduled paid co-ops where students are working on live vehicles in a dealership setting. There are also opportunities to continue their education with three Baccalaureate degree options.

3.   **Describe and assess trends in numbers of degrees awarded in the program.**

The number of degrees awarded has fluctuated from year to year as can be seen by the data in the chart below. This is due, in part, to the corporate-sponsored options within the Automotive Service program. The Ford ASSET option starts a group on the odd years and graduates 12 to 15 students on the even years. This coupled with the fluctuation in enrollment and the probability of some students not completing the requirements for an A.A.S. degree until they are in a Baccalaureate degree program would explain the fluctuation in degrees from year to year.

Degrees Conferred

	2001-02	**2002-03**	**2003-04**	**2004-05**
Automotive Service Technology	48	76	49	63

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

This is hard to determine since there is no definition of "prescribed time." However, the percentage of students that graduate after two years from the Automotive Service program averages 27 percent from the years 2001 to 2003. This number increases to approximately 50 percent after three years from the years 2001 to 2002. This number is up slightly over the three-year point in the

years 1995 to 2000 (46 percent). It appears that overall graduation percentages have increased since the last Automotive Service program review.

5.   **On average, how long does it take to graduate from the program? Please comment.**

According to the data it appears that the largest increase of graduates happens at the end of the third year (which is represented by year 4 on the charts). This number continues to increase until approximately the end of the fourth year (2001). This would indicate that students are not completing their A.A.S. degree until sometime during their baccalaureate degree, or possibly have left and come back. While it is taking students longer to complete their A.A.S. degrees on average than it has in the past few years, there is an increase in the percentage of students that actually do complete their degrees.

E. Access

1. **Describe and assess the program's actions to make itself accessible to students. Use examples such as off-site courses or other types of flexible learning, use of summer courses, multiple program entry points, e-learning, mixed delivery courses, scheduling.**

The program chair and faculty have implemented strategies to make the program more accessible to students. A specific example includes a summer offering of Service Floor (AUTO200/AUTO250), which allows students additional opportunities to finish this portion of the program. Additionally, paid internships attached to the corporate options (ASEP, ASSET, and CAP) and the comprehensive option have given students the opportunity to earn college credit for work completed in the field at an automotive repair facility. Students entering the Automotive Service Program have the flexibility of starting in either the Fall or Winter Semester. Offered in the evening is "High Performance Engine Machining", which is available to all automotive students. Completion of this class earns students the opportunity to attach an additional certificate to their Auto Service Degree. Faculty are using WebCT for assignments, testing, grades, and keeping students informed of upcoming events and due dates.

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

Faculty visitation to corporate and comprehensive program internships has increased program visibility in the auto service community. In 2005, faculty members made 226 visits to auto repair facilities around the state to follow up on progress of student interns. This figure is slightly higher than the average 207 visits per year for the past 5 years.

The Automotive Service Program has gained visibility in several different ways. The options sponsored by DaimlerChrysler (CAP), Ford Motor Company (ASSET) and General Motors (ASEP) are promoted on a national level through trade publications, websites, and other media distributed to high schools and vocational centers. The corporations sponsoring these programs have selected only a few colleges and Universities throughout the country to offer them. The CAP program is the only one offered in the state of Michigan and the ASSET program is one of only two in this state. The ASEP program is one of three, but the only one offered on the west side of the state. These limited offerings coupled with Ferris' ability to offer housing options have helped to attract students from all over this and surrounding states.

The High Performance Machining courses are very popular and typically full to capacity.

Student count has shown a steady increase; therefore, faculty load has increased, facility usage has increased, and resources have been stretched to meet students' needs. To minimize problems associated with the lack of floor space on the Service Floor, we have been granted temporary use of the former motor pool garage at the Physical Plant adjacent to the Automotive Center.

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

Several examples can be cited where the actions described in (1) help to advance the goals of the Automotive Service Program.

One of the goals of the Automotive Service Program is to provide students with flexible options that increase educational and extracurricular opportunities (goal #5). The measures described in (1) demonstrate a clear connection between class offerings and this goal.

Another goal of the Automotive Service Program is to increase program visibility and enhance relationships between Ferris State University and industry partners (goals #6 and #13). The program's internship opportunities

create a mutually beneficial link with industry, signifying a connection between program goals and program offerings.

Additionally, a goal of the Automotive Service Program is to develop new and innovative methods of instruction through the use of technology (goal #14). Faculty use of WebCT as described in (1) shows a correlation between program goals and faculty development.

Goal #15 expresses a need for unity between Auto Service Faculty and Ferris State University Administration to collaboratively plan for future growth of the program. The temporary granting of access to the former motor pool garage to accommodate increasing numbers of students on Service Floor is an example of cooperation this goal addresses.

F. Curriculum

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

1. **Program Requirements. Describe and assess the program related courses required for graduation.**

   a. **<u>As part of the graduation requirements of the current program, list directed electives and directed general education courses. Provide the rationale for these selections.</u>**

      As part of Automotive Service Technology program graduation requirements, the students must earn 3 credits in each of the following categories: (see Appendix K)

      - **Social Awareness** (Fulfills university requirements)
      - **Cultural Enrichment** (Fulfills university requirements)

      As part of Automotive Service Technology program graduation requirements, the students must complete the following directed general education courses:

      - **Physics 130** (Fulfills university requirement for Science w/lab)
      - **English 150** (Fulfills university requirement for communication competence)
      - **English 250** (Fulfills university requirement for communication competence)

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 taken for remedial purposes)**

There are no hidden prerequisites in the Automotive Service Technology program.

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

   One revision made to the program has been the elimination of one course offering to accommodate the reduction in credit hours encouraged by the University. With that course reduction a subsequent reorganization of curriculum took place so the material could be absorbed into other courses. Details of this change are described below.

   - AUTO116 was eliminated.
   - Material covered in AUTO116 was absorbed into AUTO113, AUTO117, and AUTO213.

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

   Currently, there has been an effort to combine the corporate sponsored programs (ASSET, ASEP, CAP). Enrollment numbers have become a concern and a strategy of merging the 3 programs has been discussed. Negotiations between Ferris State University and the manufacturers are currently taking place and the outcome is undecided at this point.

4. **Are there plans to revise the current program within the next three to five years? If so, what plans are envisioned and why?**

   Future curriculum revisions will be carried out along with technological changes within the industry. Advisory committee feedback is constantly assessed for desired changes from industry representatives.

   New and emerging technology relating to alternative fuels and changing propulsion science will inevitably create a void in the program that will have to be addressed with program revisions. The transportation industry, the automobile, and therefore the automobile repair industry are all in a constant state of rapid change, and future curriculum changes will address industry trends.

There is a push toward additional corporate support for our program. Specifically, an initiative to seek sponsorships from import manufacturers has been recommended. Any connection that can be made between corporations and the university should be pursued. Agreements between manufacturers and the Automotive Service Technology program would create opportunities for program revision and require specialized curriculum.

G. QUALITY OF INSTRUCTION

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

Based upon feedback gathered from the "Alumni Survey" (see Appendix C), the perception of instruction is predominately favorable. When asked to assess Automotive Service Technology instructional staff with a letter grade of A through F, alumni gave the following responses:

- 34.5% - A
- 56.0% - B
- 6.0 % - C
- 2.3 % - D
- 1.2 % - F

In addition, alumni included positive remarks regarding instructional staff in the comments section of the survey.

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

Based upon feedback gathered from the "Advisory Committee Survey (see Appendix H), the perception of instruction is predominately favorable. When asked to assess Automotive Service Technology instructional staff with a rating of 1 through 5 (1-poor, 2-below expectations, 3-acceptable, 4-good, 5-excellent) advisory committee members gave the following responses:

- 84.2% - 5
- 10.5% - 4
- 0.0 % - 3
- 0.0 % - 2
- 0.5 % - 1

"Employer Surveys" (see Appendix D) did not include a section for employer feedback on instructional staff. Most employers have very little first-hand knowledge of quality of instruction in the Automotive Service Technology program. However, employers gave generally positive feedback regarding

student performance and preparedness, with 96.3 % of survey respondents reporting they would hire another Ferris State University graduate. These positive employer assessments of Automotive Service Technology students can be directly related to instructional staff quality.

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.?**

Several forms of instructional technology are used by Automotive Service Technology faculty.

- WebCT is used by faculty members for student assignments, testing, grading, and effective communication.

- The Automotive Service Technology Program has obtained 9 LCD (Liquid Crystal Display) projectors in the last 5 years. LCD projectors are used in the classroom environment for more efficient instruction and they are essential for using instructional technologies such as PowerPoint, Web-Based instruction, and computer-generated instructional media.

- Automotive Service Technology faculty members use laptop computers to create lessons, present materials, and communicate with students, making the classroom a more efficient learning environment.

- The Automotive Center uses wireless internet technology throughout the building. The combination of wireless capability and laptop computers gives faculty members a great deal of flexibility in their lesson planning and delivery.

- In fall 2005, two of the Automotive Center's classrooms were remodeled and updated to make use of Smart Classroom Technologies. These upgraded classrooms represent the latest advancements in instructional equipment and delivery methods.

- Automotive Service Technology faculty members regularly take advantage of training opportunities associated with enhancing instruction and upgrading technical expertise.

- Automotive Service Technology faculty members attend training seminars and technical updates in order to keep themselves informed on the subject of current automotive trends as well as the use of educational technology.

- Professors benefit from their participation in class offerings and special training presented by Ferris State University's Faculty Center for Teaching

and Learning. This participation has resulted in thousands of dollars being earned by Automotive faculty for use in enhancing the learning environment.

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

Examples of professional development faculty have participated in to enhance the learning environment are listed below:

- Since the last program review, new faculty members have participated in new faculty orientation and training that is offered through the Faculty Center for Teaching and Learning.

- Faculty members have taken part in WebCT training to enhance the program and improve interaction between students and staff.

- Four faculty have earned graduate degrees since the last program review and two more are currently working towards their graduate degrees.

- To improve their abilities in their role as academic advisors, faculty members have participated in academic advising workshops and attended national academic advising conferences.

- Keeping up-to-date with current automotive technology is a primary objective of all staff. Faculty members participate in automotive technology update courses and seminars on a continuous basis.

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 Program Symposium.**

Examples of efforts to increase interaction between students and faculty are listed below:

- Automotive Service Technology faculty participate in the College of Technology's annual fall picnic where students and faculty share an evening of eating, entertainment, and interaction. This event has been very successful in bringing faculty and students together to become more familiar in a casual environment.

- Automotive Service Technology students and faculty regularly participate in field trips, exposing students to current trends and technologies in the automotive service industry. Some examples of field trip destinations include Ford Automotive Training Center, Land Rover Training Facility, Ford

Technical Assistance Center Hotline, Daimler-Chrysler Museum, and DaimlerChrysler Training Center.

- Automotive Service Technology students and faculty participate together in Ferris State University's student chapter of Society of Automotive Engineers (SAE). Meetings focus on professionalism, technology, and industry trends.

- Automotive Service Technology students and faculty participate in the BAJA and Formula 1 Challenges. These are competitive events sponsored by SAE where student teams compete against other institutions at building a prototype vehicle and evaluating the vehicles performance in judged trials.

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

The Automotive Service Technology Program has been very effective at addressing current practices of teaching and learning.

- Service Floor permits the student to experience the real world of automotive diagnosis and repair. The students are required to apply their classroom knowledge in a more contextual learning environment.

- Students participating in one of Ferris State University's corporate sponsored programs are required to work at a participating dealership as part of their educational experience. The experiential learning provided by the dealership mentor gives the students a significant advantage as they prepare for employment or advanced education.

- Lab experiences provide a connection between classroom lectures and the actual skills required for employment and advanced education. Students use critical thinking skills to develop knowledge of relationships between theory and the real world of automotive technology.

- Students are encouraged to take advantage of automotive-related internship opportunities in their communities. Being exposed to actual working environments assist the student in making correlations between broad conceptual knowledge and specific real world application, giving students an obvious benefit.

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

It is the belief of the Automotive Service Technology faculty that the actions described in the two preceding sections have had a positive effect on the quality of learning in the program.

- Teaching and learning is most effective when good relationships are formed. In section 5 above, it is demonstrated that faculty promote relationships with students. If the student is engaged and a favorable relationship with faculty is developed, then learning and retention present more positive outcomes.

- Forming connections between concepts and reality should be a goal of any good educational institution. As outlined in section #6 above, the Automotive Service Technology faculty understands this and consistently strives to create an environment where these connections can flourish. There is a clear association between contextual teaching and knowledge retention. The use of contextual teaching strategies by the instructional staff undoubtedly makes for better learning, increased knowledge retention, and easier transitions toward employment and higher education.

- The efforts described above are not the complete formula for a successful program. However, these actions can unquestionably contribute to part of the Automotive Service Technology Program's increasing enrollment, with retention and graduation rates higher than university average.

H. Composition and Quality of Faculty

Describe and assess the composition of the faculty teaching courses in the program.

1. **List the names of all tenure and tenure-track faculty by rank.**
   a. **Identify their rank and qualifications.**

      1. **Pete Alley – Professor**
         MS - Occupational Education, Ferris State University, 1992
         BS - Trade Technical Education, Ferris State University, 1976
         AAS - Automotive Service, Ferris State University, 1969
         Certified Master Technician A.S.E.

      2. **Rex Billings – Professor**
         MS - Occupational Education, Ferris State University, 1988
         BS - Trade Technical Education, Ferris State University, 1981
         AAS - Automotive Service, Montcalm Community College, 1979
         ASE Master Certified Technician
         ASE L1 Advanced Engine Performance
         IMACA Refrigerant Certification

3. **Gordon Crandell – Assistant Professor**
   BS - Technical Education, Ferris State University
   ASE - Master Certification
   ASE - L1 - Advanced Driveability
   Michigan State Master Certified

4. **Mark DeKoster – Assistant Professor**
   AAS Automotive Service, Ferris State University
   BS Trade Tech, Ferris State University
   ASE Master Certified
   ASE ADV Engine L1

5. **Matt Dixon – Assistant Professor**
   BS - Millersville University of Pennsylvania 1992
   Diploma Automotive Training Center, Exton PA, 1997
   ASE Master Certification
   ASE L1 Advanced Engine Performance
   IMACA Refrigerant Certification

6. **Patrick English – Assistant Professor**
   MS, Workforce Education and Development, Penn State University, '02
   BS, Vocational-Industrial Education, Penn State University, '95
   AS, Automotive Service Management, Pennsylvania College of Technology, '92
   AS, Automotive Technology, Pennsylvania College of Technology, '91
   ASE Master Automotive Certification
   ASE L1 Advanced Engine Performance

7. **Gary Gage – Assistant Professor**
   MS - Career and Technical Education, Ferris State University
   BS - Technical Education, Ferris State University, 2002
   Master Certified A.S.E. Automotive Technician
   L1 Certification
   State of Michigan Certified Master Technician
   General Motors Master Technician

8. **Michael Hachman – Professor**
   MS - Michigan State University, 1986
   BS - Trade Tech Teaching, Ferris State College 1971
   AAS - Auto Service, Ferris State College 1969
   Certificate - Auto Machine, Ferris State College, 1967
   ASE Certified

9. **Greg Key – Professor**
   MS - Technical Manufacturing, Eastern Michigan University, 1986
   BS - Industrial Education, Western Michigan, 1978

10. **Russ Leonard – Assistant Professor**
    MS - Education, Wayne State University, 1997
    BS - Industrial Arts Education, Central Michigan University, 1991
    ASE Master Automotive Certification
    ASE L1 Advanced Engine Performance

11. **Matt McNulty – Assistant Professor**
    Master of Arts, Eastern Michigan University, Vocational-Technical Administration
    Bachelor of Science, Michigan State University, Industrial Education
    ASE, Master Automobile Technician
    ASE, Advanced Level Specialist, Automobile Advanced Engine Performance
    ASE, Refrigerant Recovery and Recycling
    State of Michigan, Master Mechanic, Automobile, Heavy Truck, & Motorcycle
    IMACA Refrigerant Certification - Section 609

12. **Daniel Skurski – Associate Professor**
    MS - Career and Technical Education, Ferris State University, 2002
    BS - Indiana State University, 1978
    Accrediting Board of Engineering Technology (ABET) trained evaluator.
    ASE Master Technician, M.A.C.S. Certification
    L1 Certification

13. **Benjamin Upham – Associate Professor**
    MS - Career and Technical Education, Ferris State University
    BS - Technical Education, Ferris State University,1992
    AAS - Auto Service, Ferris State University, 1987
    ASE Master Technical, M.A.C.S. Certification, Ford Master Certified

14. **Bill Wagner – Assistant Professor**
    BS - Technical Education, Ferris State University, 1976
    AAS - Automotive Service Technology, Ferris State University, 1972

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

Since the last program review, 1 merit award and 5 promotions have been awarded to staff within the department. Those individuals are noted below:

- **Merit Award**
  Greg Key

- **Professor**
  Pete Alley
  Rexford Billings
  Michael Hachman

- **Associate Professor**
  Daniel Skurski
  Ben Upham

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

Program faculty participate regularly in professional organizations and activities. A listing of these activities is shown below:

- NACAT Membership
- SAE Distinguished Section Award for 2005
- ABET Program Evaluator
- NATEF Program Evaluator
- SAE Membership
- Attendance to SAE Meetings
- Vice-Chair to Faculty Advisors (SAE)
- STS Membership
- West Michigan SAE Section Treasurer
- SAE / ABET Committee Member
- SAE Presentation ("Integration of SAE and STS")
- Grading and Assessment Seminars
- National Academic Advising Conference
- WebCT Training
- New Faculty Orientation
- Faculty Center for Learning and Teaching

2. 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 normal annualized teaching load for the Automotive Service Technology program is a teaching schedule that accumulates either 24 credit hours or 36 contact hours. "Normal" load is determined by contractual agreement.

The following table illustrates faculty overload assignments for the last 5 years:

	Fall 2001	Winter 2002	Fall 2002	Winter 2003	Fall 2003	Winter 2004	Fall 2004	Winter 2005	Fall 2005	Winter 2006
Total Number of Full-Time Faculty (not including adjunct faculty)	12	12	12	12	10	10	12	12	14	14
Number of Faculty that Accepted Overload Assignments	3	7	5	3	6	5	7	5	7	5
Percentage of Faculty that Accepted Overload Assignments	25%	58.3%	41.6%	25%	60%	50%	58.3%	41.6%	50%	35.7%

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

Two examples of activities which allow faculty release time in the Automotive Service Technology program are noted below:

- Corporate program (ASEP, ASSETT, CAP) coordinators are allowed 3 credit hours release time per semester. This time is used for recruiting, contacting potential employers to initiate internship opportunities, visiting students in their internship positions, technical training, and coordination of the program.
- The Automotive Department chair is allowed release time to fulfill the duties of the position. Over the past 5 years, the department chair has averaged between 75% and 100% release time.

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

    The recruiting process for new faculty involves advertisement in national, state, and local newspapers and publications. The recruiting process includes the use of a variety of advertising venues, reaching a diverse audience. These include the *Detroit Free Press, Grand Rapids Press, Chronicle for Higher Education,* Ferris Website, *Automotive News*, and the *Big Rapids Pioneer*.

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

    The preferred academic requirement is a Master of Science Degree. The qualification however will allow a Bachelor of Science Degree plus the completion of a Master of Science within 2 years. The experiential requirements involve a minimum of 5 years experience with approximately 2 years of teaching experience.

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

    The program has no specific initiative in place to address gender and race/ethnic diversity within the faculty. The program adheres to University guidelines regarding recruiting, hiring, and interviewing practices.

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

    Affirmative action and Equal Employment Opportunity Legislation is in place to allow equal opportunity to both gender and race/ethnicity groups.

4. **Orientation. Describe and assess the orientation process for new faculty.**

    New faculty participate in "New Faculty Training" provided by The Faculty Center for Teaching and Learning. Since the last program review, this program has been expanding and adjusted to better meet the needs of new faculty. Prior to the starting of fall semester 2005, new faculty participated in a week-long orientation to complement the ongoing "New to Ferris Faculty Sessions" held bi-weekly throughout the year. Those who participated in the orientation session have given positive comments on the effectiveness of this initiative. Within the department there hasn't been a need for a formal orientation program as new faculty are updated and informed on a "need to know" basis. The department chair, senior faculty, and clerical staff are available to answer questions and lend guidance as individual needs arise.

5. **Reward Structure: e.g., salary, professional development funds, travel funds, UCEL and FSUGR 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 requirements.**

      Salary amounts are reflective of an employee's industry credentials, degrees earned, teaching experience, and special skills or talents.

      Increases and faculty promotions regarding the reward structure in the Automotive Service Technology program are governed by the current Ferris State University/Faculty contract.

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

      Yes, the reward structure does influence the program's ability to recruit and retain quality faculty.

      One issue involves recruiting new faculty from the pool of teachers currently enrolled in the Michigan Public School Employee Retirement System (MPSERS). The potential source of veteran teachers now working in Michigan Public Schools is severely limited because of Ferris' non-alignment with the MPSERS system.

      In addition, when making a comparison between Ferris State University and 6 other Michigan public universities offering similar degree programs (BA+), the following can be concluded: (see Appendix L)

      - Professors' salaries ranked 6th lowest out of 7 Michigan public universities offering similar degree programs. (Lower 15th percentile)

      - Associate professors' salaries ranked 4th lowest out of 7 Michigan public universities offering similar degree programs. (Lower 44th percentile)

      - Assistant professors' salaries ranked 4th lowest out of 7 Michigan public universities offering similar degree programs. (Lower 44th percentile)

      Because the Automotive Service Technology program is a two-year degree, another comparison was done between Ferris State University

and 24 other Michigan public colleges offering similar 2 year degree programs; the following can be concluded:

- Average professors' salaries ranked 17th lowest out of 25 Michigan public universities offering similar degree programs. (Lower 32nd percentile)

- Average professors' benefit ranked 20th lowest out of 25 Michigan public universities offering similar degree programs. (Lower 20th percentile)

Recruiting for new faculty positions has been impacted by salary amounts and benefit packages offered to perspective candidates.

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?**

A reluctant yes.

Positive examples of how the reward structure supports issues noted in "c" are listed below.

- Timme Grants have been utilized by faculty to fund special projects and initiatives.

- Tuition reimbursement provided financial support to faculty pursuing higher degrees, educational advancement and special training.

- Faculty make use of consultation days to serve on advisory committees, provide counsel, network with other professionals, and act as ambassadors of Ferris State University.

- Professional Development Incentive (PDI) moneys provide faculty with funds to be used toward enhancing instructional initiatives and program goals.

- The Dean's office provides "as needed" funding for professional development opportunities such as seminars, travel funds, and conferences.

Reservations exist regarding the "Yes" answer to this question: one example is noted below:

- Sabbaticals and release time for special projects and additional responsibilities are very difficult to attain.

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

Enhancing diversity is not included in the reward structure within the program or department.

6. **Graduate Instruction (if applicable)**
   a. **List all faculty teaching graduate courses.**
      N/A
   b. **What percentage of graduate courses is taught by non-tenure-track faculty? Please comment.**
      N/A
   c. **What are the program's (or department's) criteria for graduate faculty?**
      N/A
   d. **Have all graduate faculty (including non-tenure-track faculty) met the criteria? Please comment.**
      N/A

7. **Non-Tenure-Track 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 following lists full-time non-tenure track and adjunct faculty who taught courses in the 2005/2006 school year. In addition, their years of service to the University are given:

   - William Bonning – 1 year appointment 25 years faculty (retired)
   - Glen Libby – 1 year appointment 3 Years of service
   - Michael Miller – 1 year appointment 3 Years of service
   - Jim Norrington – 1 semester appointment 30+ years faculty (retired)
   - David Payton – 1 semester appointment 30+ years faculty (retired)
   - Ronald Turri – 1 semester appointment 16 years faculty (retired)
   - Timothy Wagner – 1 year appointment 4 Years of service

The program's ability to retain non-tenure track faculty has been sufficient. The department chair previews faculty requirements well in advance and determines future need for adjunct faculty. With pre-planning strategy, the program is usually able to contact potential non-tenure track faculty from a pool of recently retired staff, experts from industry, or program graduates that are pursuing an education degree.

b. **What percentage of program courses is taught by the faculty in (a)? What courses are they teaching? Please comment.**

Out of 378 total credit hours taught in the program during the 2005/2006 academic year, full-time non-tenure-track and adjunct faculty taught 90 credit hours. This represents **23.8%** of all credit hours being taught by faculty listed in (a). (see Appendix M)

Out of 643 total contact hours taught in the program during the 2005/2006 academic year, full-time non-tenure-track and adjunct faculty taught 90 contact hours. This represents **27.5%** of all contact hours being taught by faculty listed in (a).

The following courses were taught by non-tenure track and/or adjunct faculty during the 2005/2006 academic year:

- Service Floor (AUTO 200/250)
- Electronic Fuel Management Systems (AUTO 117)
- Chassis Electrical Electronics (AUTO 213)
- Engine Electrical Systems (AUTO 116)
- Suspension Steering Alignment Service (AUTO 115)
- Auto Electricity / Electronics (AUTO 113)
- Manual Transmissions and Drivelines (AUTO 111)
- Automatic Transmissions (AUTO 211)

Because of the flexibility required to accommodate fluctuating student numbers, adjunct faculty are employed on an impermanent basis. The use of non-tenure track staff averts having to hire and fire tenure-track faculty when there are variations in student enrollment numbers.

c. **Describe the required qualifications (academic and experiential) for faculty listed in (a). Indicate if all faculty have met the criteria, and if not, what is being done to resolve the situation?**

The expected qualifications (academic and experiential) for faculty listed in (a) are as follows:

- Bachelor's Degree or higher.

- A.S.E. Master Certification is preferred, but minimal qualifications would include A.S.E. Certification in the area being taught.

While the program's objective is to have all faculty members listed in (a) to have all qualifications, there are a few non- tenure track staff members who do not meet the criteria for the following reasons:

- Upon retirement, some of those who held A.S.E. Master Certification allowed their certification to expire. Since it is recognized that these individuals held current certification up until the last few years, this is not seen as impediment to their effectiveness as short term instructors.

- One individual has been completing a bachelor's degree while employed as adjunct faculty. Because of this person's excellent credentials, A.S.E. certifications, and familiarity with the program, an exception was made in this particular case. Tentative completion date – Winter 2006.

d. **Does the program consider the current use of non-tenure-track faculty to be appropriate? Why, or why not?**

Yes, the program does consider the use of non-tenure track faculty to be appropriate. Because of the flexibility required to accommodate fluctuating student numbers, adjunct faculty are employed on a temporary basis. The use of non-tenure track staff averts having to hire and fire tenure-track faculty when there are major shifts in student enrollment numbers.

e. **If the program is accredited, what position, if any, does the accrediting body have regarding the use of non-tenure-track and adjunct faculty?**

The program is accredited by North Central Association (NCA) and certified by National Automotive Technicians Education Foundation (NATEF). These organization's positions regarding the use of non-tenure track and adjunct faculty are described below:

- **NCA** takes the position that all non-tenure-track and adjunct faculty should meet the same criteria as full time tenure-track and tenured staff. NCA does not mandate specific hiring standards for any faculty; their primary interest is that the total faculty be able to meet the educational goals of the institution.

  Selections regarding the use of non-tenure-track and adjunct faculty have been taken from *NCA's Higher Learning Commission Guidance on Determining Qualified Faculty*; they are shown below:

    - *Generally, the same guidelines and principles should be used for employing part-time, adjunct, temporary, and/or non-tenure track faculty as are used in employing full-time tenure-track or tenured faculty, whose primary responsibility is teaching. Although some institutions place a heavy reliance on adjunct faculty, or give graduate teaching assistants the predominant responsibility for instruction in many course sections, an organization committed to effective teaching and learning in all courses and programs will be able to demonstrate consistent procedures and careful consideration of qualifications for all instructional faculty.*

    - *The Commission does not dictate hiring standards to be applied to each member of the faculty. In providing this guidance, the Commission reflects its long-standing understanding that it is the responsibility of a college or university to establish and implement its own policies regarding faculty qualifications. The Commission's concern is about the overall capacity of the faculty to achieve the educational goals of the institution, and to do that, the faculty must be made up of "people who by formal education and tested experience know what students must learn."*

- **NATEF** has no official position regarding the use of non-tenure-track and adjunct faculty. The following standards are taken from the NATEF standards regarding instructional staff:

- **Standard 9.1 - Technical Competency**
  Instructors must hold current ASE certification in the automobile areas they teach and which are being evaluated for program certification.

- **Standard 9.2 - Instructional Competency/Certification**
  Instructors should meet all state certifying requirements.

I.   Service to Non-Majors

1. **Describe and assess the impact that delivery of service courses offered by the program or the department has on the program.**

   At this time the Automotive Service Technology program does not provide any service courses for other programs.

   a. **Identify and describe the General Education service courses provided by the program faculty for other departments at FSU.**
      N/A

   b. **Identify and describe any 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.**
      N/A

   c. **Discuss the impact of the provision of General Education and non-General Education courses has on the program.**
      N/A

   d. **Does the program plan to increase, decrease, or keep constant, its level of service courses? Explain.**

   The program plans to maintain the level of service course offerings. The program is open to requests for service course offerings from other departments within the college and the university, but at this time there is no anticipation of such a request.

J. Degree Program Cost and Productivity Data

<u>Submit Institutional Research and Testing data. Comment on this data.</u>

Looking at the SCH/FTEF statistics for the past 5 years shows an increase from 279.14 in 2001-02 to 320.74 in 2004-05. *(2000-01 are not regarded as accurate because of missing data).* (see Appendix N)

The statistics show a 26.7% increase in SCH/FTEF numbers from 2001-02 until the *"high-water mark"* of 2003-04. At that point a moderation of SCH/FTEF numbers was realized, giving a total increase of 15.9% over the last 4 years. Making a comparison, the data shows that many other programs, the college, and the university all showed the same moderation between 2003-04 and 2004-05.

The 15.9% overall increase realized by the Automotive Service Technology program over the last 4 years compares favorably with the College of Technology (7.7% overall increase) and Ferris State University (0.6% decrease) during the same timeframe.

Even with a 35% increase in Full Time Equated Faculty over the past 4 years, the SCH/FTEF numbers continue to rise because of increasing student enrollment.

Because of the lab intensive nature of the Automotive Service Technology program, average SCH/FTEF numbers are somewhat lower than programs with more academic course offerings and the university as a whole. Safety considerations, liability issues, and contextual learning environments all require a relatively high faculty-to-student ratio. This fact is accepted at all levels of career and technical education programming. In addition, corporate program (ASSET, ASEP, CAP) coordinators are granted release time to pursue additional responsibilities regarding their involvement in the program; this lowers overall SCH/FTEF numbers for the program.

K. Assessment and Evaluation

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).**

   The following variables are tracked to assess the effectiveness of the program:

   - Before advancing to the AUTO200/250 (Service Floor) portion of their training, students are assessed and are required to have a minimum of a 1.70 (C-) in each of their first year Automotive classes. The minimum grade point requirement is a useful gauge in determining student success in the Service Floor environment. AUTO200 and AUTO250 are required to successfully complete the Automotive Service Technology program.

   - Graduate employment rates are tracked through Institutional Research and Testing (IRT). Data is compiled by IRT through the Graduate Follow-Up Survey. The data collected is then assessed to determine the program's effectiveness at providing employers with quality entry level employees.

   - Graduation rates are tracked through Institutional Research and Testing (IRT). This information is used to compare graduation rates of Ferris' Automotive Service Technology students with graduation rates of students from other institutions offering similar programs.

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.**

   Assessment of data regarding the variables listed in (1) is stated below:

   - According to the data provided by Institutional Research and Testing (IRT), the employment rate for graduates from the Automotive Service Technology program is at 100%. *(Data provided by 2003-2004 Graduate Follow-Up Survey from IRT)* (see Appendix O)

   - The graduation rate for students in the Automotive Service Technology program is 52% completion after 3 years for those students that started the program in fall 2001, and 47% completion after 3 years for those students that started the program in fall 2002.

(Data provided by Institutional Research and Testing Official 7th Day Counts   pg. 7)

- To compare, other Michigan institutions offering 2 year degrees average a 16% graduation rate after the student has attended for 3 years. *(Data provided by Michigan Lt. Governor's Commission on Higher Education and Economic Growth)* (see Appendix P)

- In addition, the national average for institutions offering 2 year degrees is   a 29.9% graduation rate after attending for 3 years. . *(Data provided by Michigan Lt. Governor's Commission on Higher Education and Economic Growth)* (see Appendix P)

3. **Describe how the trend data in (2) is used to assess the rigor, breadth, and currency of the degree requirements and curriculum.**

Examples of how the data in (2) is used to assess the rigor, breadth, and currency of degree requirements and curriculum are stated below:

- The 100% employment rate as reported by Institutional Research and Testing speaks well of the program's ability to provide quality employees to industry. This trend is an indicator of rigorous and current curriculum and appropriately associated degree requirements. Because of the Automotive Service Technology program's reputation for quality programs and qualified graduates, employers actively seek Ferris State University graduates to hire.

- The higher than average graduation rate is an indicator of the program's ability to attract and retain quality students. When comparing post secondary opportunities, high school students are attracted to Ferris State University because of employment potential as described previously. This allows the university to impose minimum entry requirements, resulting in a more prepared student body.

- The Automotive Service Technology program is NATEF certified, attesting to the quality, rigor, currency, and completeness of the program. To maintain NATEF certification, the program must complete a review process every 5 years to ensure the program's adherence to national standards. Students involved with and completing the program have met NATEF standards for students in automotive programs nationwide.

4. **Describe how the trend data in (2) is used to assess the extent to which program goals are being met.**

Trend data previously described demonstrates the extent to which program goals are being met, examples are noted below:

- Goal # 1 – Trend data shows a correlation with providing students necessary skills and knowledge to professionally diagnose and repair automobiles and light trucks.

- Goal #5 – Trend data shows a correlation with providing students with flexible options that increase their opportunities to successfully compete in the job market.

- Goal #8 – Trend data shows a correlation with providing the automotive service industry with qualified entry level repair technicians and related personnel.

- Goal #12 – Trend data shows a correlation with university recognition and enthusiastic industry support.

- Goal #13 – Trend data shows a correlation with university visibility in regards to recruiting and curriculum offerings.

L. Administrative Effectiveness

1. **Discuss the adequacy of administrative and clerical support for the program.**

The department coordinates the Automotive Service Technology, Automotive Body, Automotive and Heavy Equipment Management, and Automotive Engineering Technology programs within the department. The department has 18 tenure/tenure track faculty members and 5 adjunct faculty members.

In addition, there are 1 secretary and 1 account clerk for the department. The secretary's duties are split between all of the programs within the department. She provides clerical support for all of the faculty and the department chair. The account clerk is responsible for operations pertaining to the service floor operation.

To provide comparison, the chart below illustrates the responsibilities of department chairs and clerical staff for other departments within the College of Technology.

DEPARTMENT	NUMBER of CHAIRS	NUMBER of SECRETARIES	NUMBER of FACULTY	NUMBER of PROGRAMS
Architectural Technology and Facilities Management	1	1	5	2
Automotive Technology	**1**	**1**	**18**	**4**
Construction Technology and Management	1	1	11	3
Electrical/Electronics and Computer Networks & Systems	1	1	7	3
Heating, Ventilation, Air Conditioning, and Refrigeration	1	1	14	2
Heavy Equipment	1	1	4	2
Manufacturing Technology	1	1	16	3
Mechanical Design	1	1	12	4
Plastics and Rubber Engineering Technology	1	1	7	4
Printing and Imaging Technology Management	1	1	7	3
Surveying Engineering	1	1	5	2
Welding Engineering Technology	1	1	5	2

As illustrated by the table above, when compared to other departments within the College of Technology, the Automotive Technology department chair and

clerical support have the greatest number of combined faculty and program responsibilities.

2. **Are the program and/or department run in an efficient manner? Please explain.**

Program requirements are constantly being evaluated by the department chair with feedback from faculty. Every attempt is made to maximize resources and make the department work more efficiently.

If any shortcoming might be noted, it would be in the staffing numbers and would not reflect any deficiencies in administrative or clerical personnel. As noted in the chart above, Automotive Technology is the largest department in the College of Technology with no additional clerical or administrative staffing. With the enrollment trend the limited number of support staff will have to be addressed.

3. **Are the class and teaching schedules effectively and efficiently prepared? Please comment.**

When scheduling classes in the Automotive Service program the students' needs are addressed first. In classes where the student numbers are limited by lab space or available equipment, alternate schedules will be offered. This allows the students to get all of the required courses the first year, so they can be eligible for the Service Floor during the second year. Classes are also scheduled with reasonable amounts of time between starts. Usually classes are scheduled close together so once students are in the Automotive Center they will have multiple classes to attend.

4. **Are the students able to take the courses they need in a timely manner? Please comment.**

Classes are scheduled in a block format in the Automotive Service program. This allows students the opportunity to take the courses in sequence with additional time in the schedule for general education courses. If a student falls out of sequence for any reason, there typically is a trailer course designed to allow that student the opportunity to retake it the following semester. This has the added benefit of allowing the department to offer a winter start to the program as well.

Section 4

Facilities
And
Equipment

A. Instructional Environment

1. **Are current classrooms, labs, and technology (both on-campus and at off-site locations) adequate? Explain.**

   Comments are based on a survey sent to faculty and the tabulated responses are included in Appendix Q.

   Classrooms are considered to be adequate for instruction with some reservations: the noise level of the heating system is a potential distraction in several rooms and the temperature during the spring and fall can get quite high in all but one classroom which has air conditioning. The technology in most classrooms is also adequate with built-in projection equipment. Again a couple of classrooms do not have this and AV equipment needs to be brought in on a class-by-class basis.

   Labs did not receive quite as good a response with an even split between adequate and inadequate for instruction in some labs. This is probably due to the fact that a few labs are dedicated to a particular subject matter and others are not. Some labs are not scheduled in a designated lab room, but rather on the Service Floor. This configuration is difficult to manage because of the fluctuation in available space due to changes in customer work load. There may also be multiple labs scheduled at the same time that require the same equipment.

2. **How does the condition of current facilities impact program delivery? Explain.**

   Classroom equipment varies considerably from one classroom to the next. Some classrooms are equipped with built-in projection units and smart boards as well as 3-D projection units, whereas others only have an overhead projector. This hasn't been too big of an issue until of late. Most of the faculty are now using multimedia presentations to deliver lecture material, and utilizing a classroom that is not equipped with proper hardware is difficult. There is portable projection equipment available for use, but it does not include smart boards or 3-D projection capabilities.

   Labs that are dedicated to a particular subject matter are reasonably well equipped and set up. However the labs used for multiple subjects may require an extensive amount of preparation prior to the beginning of lab. This presents a problem due to the fact that labs are scheduled back-to- back for different subjects. So as one lab instructor is finishing up the next instructor is preparing, which can delay the start of a lab by several minutes. If the lab is scheduled to meet on the

Service Floor there may be even more concerns as there is not always room for additional vehicles and equipment above and beyond what is being worked on during service floor hours.

In addition, most of the building is not air conditioned and can become quite uncomfortable at certain times of the year. Due to the lack of circulation the classrooms can get extremely hot and humid creating a difficult learning environment. One of the labs houses the air-conditioning unit for the faculty offices and adds additional heat and noise into an already hot lab environment. When the unit is operational it is very difficult to give instruction due to the noise it produces. One of the classrooms was created out of a storage room and is too small for a full lecture class.

3.   **Describe the program's projected needs with respect to instructional facilities.**

The Automotive program has had double digit increases in student numbers when compared with enrollment in our last program review (see section 3-C-1). This has caused certain courses within the program to be overfilled. The Service Floor is a good example of this over capacity issue.

The facility is currently being used to its capacity and in some areas has exceeded its capacity. The Service Floor has been a bottleneck in the program with numbers of students exceeding capacity (see section 3-C-1). The Automotive Service program was granted temporary use of the chemical storage facility adjacent to the physical plant. This is now being used for lab space by the Ford ASSET students. This helped to increase the size of the Service Floor by approximately 25%. This expansion coupled with changes in the requirements for a Baccalaureate degree will reduce the numbers on the Service Floor in the future.

4.   **Describe current plans for facilities improvements and indicate their status.**

There are no known plans for improving, modifying or rebuilding the current facility to meet current and future needs.

5.   **Describe how proposed changes or improvements to facilities would enhance program delivery.**

Based on comments previously the department can only speculate on what might be accomplished if we were to get a significant building project for the department in terms of enhancement to current classes. The ability to add alternative fueled vehicle labs or simply have the necessary funding to bring the facilities and equipment current with industry standards.

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 Automotive center was one of the first buildings on campus to be equipped with wireless internet capabilities. This was necessitated by the need to access repair information at the vehicle and the industry trend of paperless manuals. To go along with this service the department purchased 24 laptop computers that students can check out and use anywhere in the building. In addition to these laptops students also have access to the computer lab in the automotive center which has 17 desktop units that were updated in 2005.

   The computer lab has the Microsoft suite of software and students also have access to training software offered by the individual manufacturers. This may also be accessed via the internet, depending on the manufacturer.

2. **Discuss how these resources are used.**

   The computer lab is used on a daily basis by students working on projects for both automotive related and general education courses. It is also used by some classes as a means of administering tests through WebCT, or for internet marketing.

   The individual laptops are used primarily on the service floor, or in labs for repair information via the internet. However the students may also use them in lecture to take notes.

3. **Discuss the adequacy of these resources and identify needed additional resources.**

The computer lab with only 17 desktop units is inadequate to conduct a normal size class in. Lecture classes are scheduled for 30 students so if an instructor would like to use WebCT for testing it must be done in multiple sessions or scheduled in a computer lab outside of the automotive center.

At certain times during the day the number of laptops is inadequate, particularly when the Service Floor is in session. Since most of the repair information is obtained electronically, laptops are in high demand by students on the Service Floor. This limits the number of laptops available to students in other labs. Also the battery life is inadequate to sustain use during back to back labs.

The current computer lab is not physically large enough to add additional desktop units. Therefore a larger room would need to be created or identified within the automotive center to accommodate the increased number of computers. Additional laptops, battery packs and chargers would help to alleviate the concerns with these units.

4. **Does an acquisition plan to address these needs currently exist? Describe the plan. Has it been included in the department or college's planning documents?**

There are no plans to change or add space to the auto building to address this concern.

5. **Discuss the efficacy of online services (including WebCT) available to the program.**

WebCT is utilized by several faculty in the Automotive Service program. Student response has been for the most part very positive. Some faculty use it simply to keep students informed of upcoming assignments, grades and other similar classroom management functions, while others use it much more extensively. Regardless of the extent to which it is used it has added an additional format to interact with students.

6. **Discuss the adequacy of computer support, including the support for on-line instruction if applicable.**

There is support from the Faculty Center for Teaching and Learning for those instructors who utilize WebCT in their courses. There are also computer resources on campus for students that do not have their own computers. This allows them to access classes and get support.

C. Other Instructional Technology

1. **Identify other types of instructional technology resources that are allocated or available to the program.**

    As of this review there are no additional instructional technology needs or resources that are used in other colleges or universities that the auto department is in need of using or accessing.

2. **Discuss how the resources are used.**

    N/A

3. **Discuss the adequacy of these resources and identify needed additional resources.**

    N/A

4. **Does an acquisition plan to address these needs currently exist? Describe the plan. Has it been included in the department or college's planning documents?**

    N/A

5. **Discuss the impact of adequacy of other types of instructional technology resources and support of these resources on the program.**

    N/A

D. Library Resources

1. **Discuss the adequacy of the print and electronic and other resources available through FLITE for the program.**

   FLITE is underutilized by most of the automotive department because of this any real discussion of the adequacy would be supposition. FLITE has an offer to the department to purchase materials to support the program but the adequacy can not be determined due to lack of requests on the part of the department.

2. **Discuss the service and instruction availability provided by the Library faculty and staff with respect to the needs of the program.**

   Based on anecdotal conversations with some faculty members the FLITE staff have been willing and helpful in scheduling the use of computer labs for testing or giving support to students who choose to do research in the library.

3. **Discuss the impact of the budget allocation provided by FLITE to your program. Is the budget allocation adequate? Explain.**

   Again due to underutilization on the part of automotive faculty to request materials the budget is adequate.

Section 5

Conclusions

A. Relationship to FSU Mission

The Ferris State University mission states that "Ferris State University will be a national leader in providing opportunities for innovative teaching and learning in career-oriented, technological and professional education."

The Automotive program has taken advantage of many of the innovative teaching opportunities that Ferris State University has to offer. Things like WebCT, wireless internet, and many of the workshops offered by the Faculty Center for Teaching and Learning enhance the teaching/learning process on a daily basis. The Automotive program has been able to take what Ferris State University has to offer and what the automotive industry requires and create a curriculum that incorporates many of the latest technologies and research on the teaching/learning process.

The Automotive program has been fortunate enough, through its affiliation with DaimlerChrysler, General Motors, and Ford Motor Company, to be able to offer students the latest in automotive technology, training, specialty tools and repair information. This allows the students to obtain that "career-oriented" education that Ferris State University is so well known for.

Through the dedication of the faculty, the generosity of the corporations, and the resources provided by the University, the Automotive department has been able to build a program that fulfills the University mission statement.

B. Program Visibility and Distinctiveness

The Automotive Service Program is very distinctive in the number of options it offers students. This is one of the reasons for the program's success and ability to attract large numbers of students.

Students have the option of a two-year or four-year degree. Most institutions that offer an Automotive degree can only offer an associate's degree. At Ferris the students can continue on for a Baccalaureate degree without going through the transfer process. They also have the option of selecting a corporate sponsored option, which will give them very specific training on one manufacturer. There are only a select few colleges around the country that offer these

options sponsored by DaimlerChrysler, General Motors, and Ford Motor Company.

The corporate sponsored options require multiple internships at sponsoring dealers. These students are sponsored by a dealership that agrees to work with them throughout the two year program. This allows the students to obtain current and relevant experience in the field they will be working in. The Service Floor requirement, where students perform work on customer vehicles, is also a unique feature of the Automotive Service comprehensive program. This brings many patrons from the campus community as well as the Mecosta County community to the Automotive center annually. Typically if a school has this opportunity for students it doesn't last as long and they are required to work on vehicles that may not meet the educational needs of the students.

Having all of these required work experiences for the students has made the program very visible and well recognized throughout the mid-west region. There are also many graduates of the program that are employed in areas where they can help place interns, hire students, or recommend future students to our program.

C. Program Value

In keeping with the goals of the Automotive Service program, the program itself has great value to many entities. The goals of the program are divided into three main categories. These are the groups that the faculty feels the program primarily serves:

- The first group is the students that enroll in the Automotive Service program. This program prepares the students to compete successfully in the field of automobile repair by offering multiple options and the flexibility to continue through to a baccalaureate degree. The faculty also plays a key role in this preparation by maintaining their currency with the automotive industry and the educational process by attending technical classes and workshops offered through the Faculty Center for Teaching and Learning. Many faculty also maintain close industry contacts that benefit students in job placement and when resolving technical issues.

- The affiliation with the big three manufacturers (DaimlerChrysler, Ford Motor Company, and General Motors) also brings to the University hundreds of thousands of dollars in vehicles, special tools, website access, and training each year. These donations are

available for all students within the Automotive Service program to use.

- The second group is employers. By maintaining close relationships with industry the faculty is made aware of what employers need in their employees. This usually gets communicated to the faculty through advisory committee meetings and on internship visitations. These recommendations become part of the curriculum review process.

Again the affiliation with the big three allows Ferris to be able to grant training credentials to students that choose those options. This has the potential of saving an employer thousands of dollars in costs associated with additional training.

- The third group is the University. The faculty spends a considerable amount of time working to build the reputation of the Automotive Service program both within the industry and on campus. Many of the faculty serve on multiple committees throughout the University community. From the Academic Senate on down faculty have served to help improve the University and to provide a voice for the College of Technology. The Automotive Service faculty serve unselfishly on committees such as Student Judicial Services, Academic Program Review, Arts and Lectures, Diversity, and Substance Abuse, to name a few. The Automotive Service department also offers low cost automobile repair to the campus community as well as the off-campus community. This brings hundreds of people to campus each year and helps offset some department costs.

D. Enrollment

Enrollment in the Automotive Service program has been firm over the last five years. It has averaged 76 new students for the years 2001 to 2004. This is partly due to the options that students have within the program. Students can choose from two or four year programs, corporate sponsored or generic programs, performance machining certificate, and performance motorsports certificate. Ferris State University also has a strong reputation within the automotive industry for providing a high quality education that is well received.

In the past the Automotive Service department only offered 2 + 2 structure. So all incoming freshman regardless of degree desired

started as Automotive Service students and were counted in the above numbers. Starting Fall 2006 incoming freshman will be labeled as to what degree they desire. This will cause numbers to be reallocated among the different degrees and ultimately cause the numbers in Automotive Service to decrease. This may cause a substantial drop in the A.A.S. degree numbers; however, the students in the other two programs will be taking almost the same curriculum so individual class numbers should not diminish substantially. In other words Automotive Service will be teaching service courses for the other degrees.

E. Characteristics, Quality and Employability of Students

Students in the Automotive program are predominantly white males, that average 19.6 years of age, and are residents of Michigan, with an average ACT of 19.9 for the years 2001 - 2005. The average ACT score has steadily increased over this time period and in 2005 was up more than two points when compared with the average score in 2001. This may be partly due to the increase in entrance requirements to the University, but may also be due to the addition of the Automotive Engineering Technology degree offering. (See section 3-A)

According to the "Graduate Follow-Up Survey Report" the placement rate averages approximately 98.75% upon graduation. This number drops to approximately 92% according to the results of the "Survey of Graduates" sent out by the department to graduates from 2000 - 2005. (See section 3-A)

F. Quality of Curriculum and Instruction

The Automotive Department curriculum has been approved by the National Automotive Technicians Education Foundation (NATEF). The NATEF certification is an industry benchmark and must be completed every five years. This certification makes possible all of the articulation agreements that are in place with career technical centers in the state. The NATEF certification is also required by industry before making donations of components or vehicles.

According to all of the groups surveyed (see section 2) satisfaction with instruction and curriculum is very high. This speaks quite highly of the faculty and the efforts they have put forth to revise and update the curriculum, not to mention the hours spent in training to keep their technical skills current. The facilities, including tools and equipment, rated on the low end of the scale by most groups surveyed. Lack of useable space, the quality and availability of tools and equipment were the issues most mentioned as needing attention.

Placement rates for graduates of the Automotive Service program are also a good indicator of the overall quality of the program. Graduates reported an approximate 98.75% placement rate with starting salaries meeting or exceeding state and national averages.

G. Composition and Quality of the Faculty

The faculty in the Automotive Department has a very diverse background. Many have come from industry with several years of experience both technical and educational. This dual experience has become a requirement for employment in the department and ensures the faculty member not only is a subject matter expert but can also teach the subject in a logical, understandable manner. (See section 3-H)

According to surveys of both students and employers most responses were positive in regards to faculty. (See section 2) This is partly due to the teaching skills the faculty posses and partly due to the technical training each faculty attends each year. As part of the NATEF requirements for certification each faculty member must attend a minimum of 20 hours of technical training each year.

Many of the faculty are also active on various committees both on and off campus.   The faculty have also participated in numerous recruiting activities including visiting career technical centers, auto shows, racing events and other locations likely to draw prospective students. Many of these events were on the faculty's personal time.